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LEVEL Ⅱ

AN ASSESSMENT CENTER APPROACH
TO OFFICER DEVELOPMENT

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LSSR 79-80

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The purpose of this thesis is to investigate the use of the assessment center for management development of Air Force officers. The officer development system is reviewed and weaknesses are identified in the informal methods of providing feedback concerning management skills. Criteria used in management development programs are also identified. The assessment center method is reviewed with emphasis on the following areas: evolution, uses, design considerations, validity, and military applications. The assessment center has received widespread usage in industry and government, however usage by the military has been limited. A validity study was conducted on the Aeronautical Systems Division's Management Assessment Center operated at Wright-Patterson AFB, Ohio in 1974 and 1975. Based on positive results from the validity study, use of this assessment center design is recommended for conducting a pilot assessment center for management development of Air Force officers. To provide background for conducting a pilot assessment center, an assessor training program is outlined which includes expanded dimension definitions and benchmarks for standardization of assessor ratings. Also, an interview guide is provided to assist in the feedback interview. Finally, future data gathering efforts are described and questionnaires are provided for obtaining reactions from both assessees and assessors.

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By

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i

This thesis, written by

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iii

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

x

CHAPTER I

INTRODUCTION

> To every man there comes in his lifetime that special moment
> when he is figuratively tapped on the shoulder and offered that
> chance to do a very special thing, unique to him and his talents.
> What a tragedy if that moment finds him unprepared or unqualified
> for that work.
>
> Winston Churchill

Background

Inherent in every leadership position is the responsibility to

efficiently and effectively manage scarce resources. The ability to

carry out this responsibility requires a development of the necessary

management skills. Management development is perhaps even more

critical to the Air Force, partly because of the magnitude and unique-

ness of its operations, and partly because of the manner in which the

Air Force obtains its higher level managers. Unlike the civilian

sector, which is frequently able to recruit personnel to fill higher

level management positions, the Air Force must develop its own. Since

the Air Force has accepted the fact that there are very few "born

managers" (AFM 25-1, 1964:36), management development must be an Air

Force program.

At the outset it is important to discuss the terminology used

in this thesis. The terms "career development", "officer development",

and "officer career development" are used interchangeably in the liter-

ature. As used in this thesis they are all taken to mean the same

thing. Officer development encompasses both the technical and

1

management development training that every officer needs to progress in a given career field. The focus of this thesis is on the management development aspects of officer development. It is assumed that while technical training requirements vary, all Air Force officers have similar management development needs.

Lt. General Rogers (1975:4) viewed officer development as the integration of functional technical training, advanced academic training, professional military education and experience throughout the individual's military career. Through this process, critical attitudes, knowledge and skills are increased to meet the challenge of more responsible positions.

Guidelines for officer development are provided in two Air Force publications, AFM 25-1, U.S. Air Force Management Process, and AFR 36-23, Officer Career Development.

"The military management concept is that an accumulation of diverse experience is essential to develop an officer's capacity to work effectively at command level and above" (AFM 25-1, 1964:36). According to AFR 36-23 (1979:4-1) "the primary purpose of career management is to insure that qualified officers are available to take on responsibility within the defense establishment." Two specific objectives are to (1) develop officer qualifications to meet Air Force needs and (2) provide the training and rotation of assignments needed to develop their capabilities.

Traditionally, management development has been defined as "an informal process consisting of the person handling a variety of assignments along a prescribed route of advancement" (Boehm and Hoyle,

2

1977:204). It can be both training designed to impart knowledge necessary for effective job performance, and a planned succession of job assignments to gain knowledge and experience (Boehm and Hoyle, 1977).

Craig (1967:406) defines management development as "the planned experience, guided growth, and training opportunities provided for those who perform the management functions." It has two specific objectives, one immediate and one long range. The immediate objective is to increase the present performance of individuals. The long range objective is to prepare those individuals with recognized potential for future advancement and responsibility (Craig, 1967). This long range objective is vitally important to the Air Force for at least two reasons: (1) continual reductions in both numerical and experience levels of officer personnel, and (2) a promotion system which dictates that all future Generals will come from within the lower ranks of the officer force.

Historically, management development is not a new concept, but its importance has become more obvious as the technology and complexity of today's organizations increase. Prior to World War II, "the implied assumption of management development generally was that talent would automatically reveal itself through the application of skill and industry at work" (English and Marchone, 1977:88). This approach proved to be effective in meeting the demands for management talent resulting from accelerated organizational growth. Firms realized that formally organized and planned development programs were essential to maintain an adequate resource of trained managers (English and Marchone, 1977:88).

The Air Force has also come to recognize the need for planned development of the officer force.

In the past, officers improved themselves and their sub-
ordinates without the aid of a formal program. The Air Force
sought to develop most of its officers within the organizational
structure. It was reasoned that, by exposure to an operational
environment and on-the-job training, officers would develop the
professional and technical skills required to insure their moti-
vation, effectiveness, and performance. However, the Air Force
today, because of the increasing technical complexity and sophis-
ticated management needs, requires a formal career development
program (AFR 36-23, 1979:1-1).

Management development in the Air Force is provided through
both formal management development programs and informal on-the-job
training. The formal programs include, but are not limited to,
Professional Military Education, the Air Force Institute of Technology,
and specialized management development courses. Informal management
development is based primarily on coaching, counseling and job rotation.

A very important aspect of any management development program
is the feedback provided to the individual on present performance. This
feedback can be used to identify strengths and weaknesses in management
skills, and serve as a basis for initiating an individual program to
correct deficiencies.

Statement of the Problem

Although there are both formal and informal programs for officer
management development, weaknesses exist in both. Formal management
development opportunities such as Professional Military Education and
the Air Force Institute of Technology programs are available to only a
portion of the officer force.

Both personal experience and the results of the Air Force

Quality of Life Survey, Third Edition (McNichols, 1980), indicate that

a weakness also exists in the informal methods of management develop-

ment. According to the survey, 61.8 percent of the officers surveyed

agreed that more supervision of member performance and behavior is

needed at lower levels within the Air Force. Additionally, 38.4 percent

indicated they seldom or never received feedback from their supervisor

about their job performance. It appears that a better way must be

found for providing feedback to officers to assist in their develop-

ment as Air Force managers.

Approach to the Problem

The assessment center is a technique which may be useful for

management development of Air Force officers. The assessment center

has been used extensively in business and government since 1956 for a

number of purposes, but primarily for selection of individuals for

management jobs. The Task Force on Development of Assessment Center

Standards (Moses, 1975:2-3) defined assessment center as follows:

> In summary, an assessment center consists of a standard-
> ized evaluation of behavior based on multiple inputs. Multiple
> trained observers and techniques are used. Judgments about
> behavior are made, in part, from specially developed assessment
> simulations. These judgments are pooled by the assessors at an
> evaluation meeting during which all relevant assessment data are
> reported and discussed, and the assessors agree on the evaluation
> of the dimensions and any overall evaluation that is made.

It is important to emphasize that an assessment center is a

method and not a place (Byham and Wettengel, 1974:353). In the

"typical' assessment center six candidates come together for one to

three days. The length will depend on the purpose of the center and

5

the number of exercises. The candidates will participate in exercises
designed to bring out behavior related to certain dimensions or
character traits which have been identified by previous research as
important to success in the target job. The exercises will include
personal interviews, job simulations, leaderless group discussions,
and both oral and written communication exercises.

As the candidates perform the exercises they are observed by
three assessors who are usually higher-level managers and have received
special training. The schedule is arranged so that assessors see
different candidates in each exercise and all assessors see each can-
didate at least once. The assessors record their observation of a
candidate's behavior on a special report form. At the conclusion of the
center, the assessors meet together to discuss the recorded observations
for each candidate. Based on their discussions, the assessors reach a
consensus agreement on an evaluation of the candidate's strengths and
weaknesses in the identified dimensions. A consensus is also reached
on the candidate's overall performance. The assessors then prepare
final written reports on each candidate. The final report will be
given to the candidate, management, or both. Finally, some type of
oral feedback is usually given to both the candidate and management.
The exact design and operation of a given assessment center will vary.
More detailed information on assessment centers is included in Chapter IV.

This thesis investigates the use of the assessment center as a
means of providing feedback to assist Air Force officers in their
management development. An actual assessment center is examined and
considered for such application. The center studied was conducted at

6

Wright-Patterson AFB, Ohio in 1974 and 1975 and was called the Aeronautical Systems Division (ASD) Management Assessment Center. This center was designed to evaluate Air Force civilian scientists and engineers for first level supervisory positions. Detailed objectives of this study effort are outlined below.

Statement of Objectives

The overall objective of this thesis is to investigate the concept of assessment centers as a method for officer development. Specifically, the objectives are:

1. Examine the feasibility of using an assessment center for the purpose of officer development.

2. Conduct a validity study of the ASD Management Assessment Center, focusing on both content and empirical validity.

3. Outline an approach for conducting a pilot assessment center for management development of Air Force officers.

Scope and Limitations

While the assessment center approach to management development should be considered for all Air Force officers, this research was based on data gathered on scientific and engineering personnel. The data was based on the ASD Management Assessment Center conducted in 1974 and 1975 for GS-9 through GS-14 level civilian personnel. This thesis effort will provide the background for conducting a pilot

assessment center for Air Force officers of comparable grade assigned to ASD. The results may then be compared to those obtained with civilian participants.

Finally, no attempt is made to include a study on cost effectiveness or means of implementation on an Air Force wide basis.

Summary

This initial chapter has provided an introduction to the research subject, identified the problem, and outlined the objectives and limitations of the study. The next chapter details the methodology used in accomplishing the objectives.

CHAPTER II

METHODOLOGY

The methodology used will parallel the previously stated objectives. The overall methodology is described below.

1. Conduct a literature review on present officer development programs and determine the criteria presently used in officer development.

2. Conduct a literature review on the assessment center process, including its use for management development.

3. Conduct a validity study on the ASD Management Assessment Center.

4. Outline an assessor training program, including expanded dimension definitions and benchmarks, for use in a pilot assessment center.

5. Discuss post-assessment feedback. Prepare an outline for the feedback interview.

6. Describe future data gathering efforts needed to further evaluate the effectiveness of the assessment c nter for management development of Air Force officers.

Literature Review: Officer Development

Since this thesis was concerned with an examination of the management development process for Air Force officers, a background on the present methods for officer development was needed. This background

was included (1) to provide information on the management skills stressed and (2) to determine what deficiencies, if any, exist within the present system.

A review of the literature indicated that management development methods fell into two broad categories -- formal off-the-job training and informal on-the-job training. A discussion of both these areas is included as well as a discussion of the precommissioning programs providing initial management development training.

Literature Review: Assessment Center

⸱⸱·e this thesis integrates the two processes of development an⸱ ⸱⸱nt, it was also necessary to review the literature pertaining to assessment centers. In reviewing the literature on assessment centers, five general areas were considered.

First, information was sought on the evolution of the assessment center. Before discussing the application of this technique, it was necessary to establish an historical perspective.

Second, the literature was reviewed to determine the various uses of the assessment center. Although this thesis advocates the use for officer development, there are other uses of which one should be aware. It is often the case that a given assessment center will serve more than one purpose.

Third, the many considerations involved in the design of an assessment center were reviewed. Before beginning any new design effort, it is important to have a design checklist. The literature review will provide such a guide to be followed in establishing assessment centers for management development of Air Force officers.

10

The fourth issue reviewed was that of validity "Unlike many other management development techniques . . . the assess.. . method has been well received partly because properly controlled research has shown it to be of value" (Byham, 1970:153). Even though the assessment center has proven to be valid in general, the validity of a given assessment center must stand alone. The literature was reviewed to determine how to go about conducting a validity study.

Finally, the literature was reviewed to investigate the use of assessment centers in the military. Articles reporting on both the applicability of the assessment process and actual military assessment centers were reviewed.

Several sources were used in the literature reviews on both officer development and assessment centers. The sources used included the AFIT library system, Wright State University library, Defense Documentation Center, Air University library, and files in the ASD Human Resources Center.

Validation

After showing that the assessment center is applicable to management development of Air Force officers, the next part of the methodology was to introduce an assessment center design and to show the validity of that design. The design selected was the Management Assessment Center operated at ASD in 1974 and 1975 to select first-level civilian supervisors in scientific and engineering positions. A complete description of this assessment center design is given in Chapter V.

This particular design was selected for two reasons. First, it was felt that there was a large amount of similarity between civilian and military jobs in the scientific and engineering fields at ASD. This similarity is discussed in Chapter VI. The other reason was the opportunity to conduct a validity study using readily available data before testing the design with Air Force officers.

The validation of the 1974-75 Management Assessment Center was done in two parts -- content validity and empirical validity. The empirical study was further divided into predictive and internal validity. Background on these types of validity is given in Chapter IV.

Content Validity

Following the procedures outlined in Chapter IV, the content validity was first established. This was done by reviewing documentation on the managerial assessment center. The results of this review are included in Chapter V.

Empirical Validity

The statistical analyses were accomplished using the Statistical Package for the Social Sciences (SPSS), (Nie, et al, 1975). All programs were run on the Aeronautical Systems Division's CDC 6600 computer at Wright-Patterson AFB, Ohio.

The empirical validity consisted of two parts -- predictive and internal. Predictive validity was concerned with identifying the strength of the relationship between the overall assessment center rating and actual managerial success following the assessment center

experience. Internal validity was concerned with a determination of the reliability of the assessment center.

This section presents a description of the sample population and the methodology used in determining both the predictive and internal validity.

Sample Population. A total of 289 civilian personnel of the Aeronautical Systems Division and Wright Aeronautical Laboratories were evaluated in 1974-1975 using the Management Assessment Center. A total of 50 centers consisting of six assessees each were conducted. In all cases, two centers were run concurrently. All the assessees were GS-9 through GS-14 level personnel occupying scientific and engineering positions. Records for personnel assessed in the first 18 centers were deleted since these centers were operated under a pilot program. From the 32 operational centers, those with less than six assessees were deleted. The internal validity was based on data from 144 individuals assessed in 24 centers.

The predictive validity was based on data from 143 individuals. Records of individuals no longer assigned to Wright-Patterson AFB were deleted from the 32 operational centers, since criterion data was not readily available.

Data on dimension ratings and final ratings were taken from assessor work sheets contained in the assessee folders for each center. In coding the data, missing ratings were not included. Also, some assessors gave tie scores such as "3/4". Ties were broken by recording the score closest to that assessor's final dimension rating for the assessee.

13

Internal Validity. The determination of the reliability of the assessment center consisted of four parts:

1. Examination of the relations among the dimensions and between the dimensions and the overall assessment rating.

2. Measurement of the agreement in ratings among assessors.

3. Identification of the nature of the underlying components of the dimensions.

4. An examination of the amount of information used in determining the overall rating.

The variables and specific data analysis for each of these parts follows.

A. Correlation of Dimensions: The correlation among the 14 Final Dimension ratings and between the 14 Final Dimension tatings and the Overall Assessment rating were accomplished using the SPSS subprogram PEARSON CORR. The variables used were the final ratings for each dimension and the overall rating determined during the consensus meeting.

The correlations of the dimension ratings for the six exercises with (1) final ratings on the same dimension and (2) the overall assessment rating were also accomplished using the SPSS subprogram PEARSON CORR. In this case, the variables used consisted of the individual assessor ratings for each dimension within each exercise, the final dimension rating and the overall assessment rating. The correlations were determined by first computing the correlation coefficients for each of the 47 variables (individual assessor rating for each dimension within each exercise) for the three assessors evaluating the individual.

The three correlation coefficients for each variable were then averaged. This was done for both the correlations with the final dimension rating and the overall assessment rating.

        B. __Inter-rater reliability__: "In an assessment center, the best measure of reliability is the degree of agreement among the three raters" (Norton, Ourne, and Thornton, 1980:17). The SPSS subprogram PEARSON CORR was again used to calculate the correlation coefficients for the variables analyzed.

        The variables used to determine the inter-rater reliability were the individual assessor ratings for each dimension within each exercise. In the context of the assessment center, dimensions are the observable traits and characteristics exhibited by an individual in a simulated situation or exercise. Each dimension is observed and rated in more than one exercise. These dimensional ratings were obtained from the assessor worksheet and represent the assessor's independent evaluation of the candidate's strength in the particular dimension.

        The final inter-rater reliability was calculated in the following four steps:

    1. Compute the three assessor correlation coefficient matrix for each dimension in each exercise. This was accomplished for each of the 24 times the center was run. Each correlation was for an $N = 6$.

    2. Compute the average correlation coefficient for each dimension in each exercise from the above matrices.

    3. Calculate the final average correlation coefficient for each dimension in each exercise by averaging all the

average correlation coefficients from each of the 24 center runs.

4. Apply the Spearman-Brown prediction formula to the final average correlation coefficients to determine the inter-rater reliability measure for each dimension in each exercise.

The Spearman-Brown (S-B) prediction formula was used to adjust for the number of assessors evaluating each assessee. "The results of Remmers and others lead rather definitely to the conclusion that, if judges are comparable, the reliability of pooled judgments increases directly with the number of judges according to the S-B formula" (Guilford, 1936:421).

In the Spearman-Brown prediction formula, A is the number

$$ r_A = \frac{A r_1}{1 + (A-1) r_1} $$

of assessors and r_1 is the final average correlation coefficient from step 3 above.

C. Factor Analysis: A factor analysis using SPSS sub-program FACTOR was used to investigate the number of meaningful factors underlying the assessor ratings. This procedure provides the capability to reduce data and identify a possible smaller set of underlying components to account for the observed interrelations of the dimensions (Nie, et al, 1975:469).

To accomplish this objective, ratings for the entire population were factored using principal component analysis and VARIMAX rotation.

16

The number of factors extracted was specified using an eigenvalue of
1.0 as the cutoff criterion.

A second objective was to determine if the underlying factors
of dimensions, as identified on the assessment center feedback reports,
were identical to the pattern generated independently by the factor
analysis. The feedback report is a written discussion of the assessee's
performance in the 14 dimensions. On the feedback report, these dimen-
sions are consolidated in four management skill areas:

1. Interpersonal skills (leadership, energy, forcefulness,
   persuasiveness, and flexibility).

2. Administrative skills (decision making, problem solving,
   organizing, acquiring information, and risk taking).

3. Communication skills (oral and written).

4. Other (empathy and stress tolerance).

To accomplish this, final dimensional ratings for the entire population
were factored specifying four factors to be extracted.

D. Regression analysis: A multiple regression analysis
using SPSS subprogram REGRESSION was accomplished to examine the relation-
ship between the fourteen dimensions and the final overall assessment
center rating. The specific objective was to determine the amount of
information used in making the overall rating. To accomplish this a
stepwise regression was done using the entire population. An examination
of the resulting regression equation indicated the amount of information
used by the assessors in determining the overall rating.

Predictive Validity. In determining the predictive validity
of the Management Assessment Center, the SPSS subprogram PEARSON CORR
was used to provide the correlation coefficients for the variables
analyzed. The correlation coefficient was used to identify the strength
of association between a pair of variables (Nie, et al, 1975:276).

Four independent variables were identified as actual criteria
of managerial success -- present grade, present salary, most recent
merit appraisal rating and the number of promotions since the assess-
ment center. Selection of criteria was based on the availability of
data from civilian personnel records and criteria used in other studies
(Klimoski and Strickland, 1977:356).

Pilot Assessment Center

After conducting the validity study, the final steps in the
methodology began with a comparison between dimensions used in the ASD
Management Center and criteria presently used in officer development.
There appeared to be enough similarity to justify use of the ASD Manage-
ment Assessment Center for management development of Air Force officers.
To lay the groundwork for a pilot assessment center, the final three
steps of the methodology were necessary.

Prior to conducting a pilot assessment center for Air Force
officers, it is important to have trained assessors. A training
schedule was presented and the major elements of the training were
described. To aid in assessor training, expanded definitions for the
14 dimensions were prepared. In addition, benchmarks were prepared to
assist assessors in calibrating their dimension ratings.

18

If the ASD Management Assessment Center is to be used for developmental purposes, feedback to the assessees is also important. An approach to giving feedback was discussed and an outline was prepared to guide the feedback interview.

A considerable amount of data concerning the ASD Management Assessment Center has been collected and evaluated. The final step in the methodology was to describe how this data base could be expanded to further investigate the effectiveness of the assessment center for management development of Air Force officers. The direction such data gathering should follow is described in Chapter VI.

Summary

This chapter has described the methodology for achieving the stated objectives. This methodology includes literature reviews of both the present officer development system and the assessment center method, a validity study of an actual assessment center and the introduction of an approach for conducting a pilot assessment center for management development of Air Force officers. The next chapter reviews the present officer development system.

CHAPTER III

AIR FORCE OFFICER DEVELOPMENT

Introduction

As discussed in the previous chapter, this literature review is concerned with an examination of the present officer development system and, more specifically, an examination of what it develops and what limitations exist within the system. Much of the information is drawn from three comprehensive studies previously accomplished (Robinson, 1974; Dobias, 1974; and Place, 1978). The review includes both the formal educational and informal on-the-job opportunities available for management development as an officer progresses through an Air Force career. Although the Air Force has numerous training programs, only those providing experience or training in the area of management development are detailed.

As was stated in Chapter I, the terms "Officer Development", "Career Development" and "Officer Career Development" are used interchangeably in the literature. Officer development includes both technical and management development. Also, as used in this thesis, "leadership" development and "management" development are taken to mean the same thing.

Since management development begins prior to commissioning for the majority of Air Force officers, this study begins with a review of the different commissioning programs.

20

Precommissioning Management Development Training

The three different methods for bringing commissioned officers on active duty provide a wide range of education and training in basic management skills. The methods include:

1. The Air Force Academy (AFA)

2. Air Force Reserve Officer Training Corp (AFROTC)

3. Officer's Training School (OTS)

The Air Force Academy (AFA)

At the Air Force Academy "leadership is based on the whole person concept, meaning that many attributes of character, education, and professionalism are necessary to compliment academic education and complete preparation for Air Force Service" (U.S. Air Force Academy Catalog, 1977:113). During the first two years, development is centered around the followship capabilities of each cadet. This is seen as a necessary prerequisite to leadership development.

During the final two years, the military training and studies program is geared to developing individual leadership skills through expanded responsibilities within the organizational structure of the Air Force Academy. The cadet wing is organized similarly to an operational Air Force wing, and cadets are given the opportunity to hold various operational and staff positions (U.S. Air Force Academy Catalog, 1977).

During the four year period, the cadets receive limited textbook management and leadership training. "After inspecting the entire leadership and management development program at the AFA, the results

21

reveal that only one semester of basic management principles and three semesters on the behavioral science aspects of leadership are taught" (Place, 1978:34).

The Air Force Reserve Officer Training Corp (AFROTC)

The Air Force Reserve Officer Training Corp (AFROTC) is a commissioning program conducted at colleges and universities throughout the country. Its primary objective is to "strengthen each cadets' potential as a leader and a manager" (AFR 45-48, 1973:4). The AFROTC program consists of two separate courses linked by a field exercise scheduled between the second and third years. These two programs are the General Military Course (GMC) and the Professional Officer Course (POC).

"The GMC is developmental in nature and is designed to motivate and prepare cadets for entry into the POC" (AFROTC Reg 53-2, 1977:2-1). It consists of the very basics of leadership training such as drill and ceremonies, and custom and courtesies. Those cadets who enter the AFROTC program without completing GMC, receive this training at an extended field exercise.

"The POC is designed to prepare cadets for active duty as Air Force officers" (AFROTC Reg 53-2, 1977:2-1). During the two year period, approximately 25 percent of the program is directed to expanding the cadets' leadership experiences in officer-type activities (AFROTC Reg 53-2, 1977). The leadership activities are designed to emphasize "the individual as a manager in the Air Force" (Place, 1978:37). The material covered includes individual motivational and behavioral processes, leadership, communications, and group dynamics. Throughout the program,

22

each student receives a total of two semesters on basic management principles and one semester on the behavioral aspects of leadership. Only three semesters of the leadership laboratory are designed to enhance leadership capabilities (Place, 1978).

The Officer Training School (OTS) Program

The Officer Training School (OTS) program is designed to prepare those individuals already possessing degrees with the opportunity to gain a commission. The twelve weeks of instruction is designed to provide training to "meet the fundamental requirements for newly commissioned officers in the Air Force" (Place, 1978:39).

As with both the AFA and AFROTC programs, the structure at OTS is designed to provide experience in different command and staff positions of the Air Force organization. Additionally, each candidate receives seventy-eight classroom hours of leadership and management training which emphasizes typical leadership and management situations confronting an Air Force officer (Place, 1978).

One criticism of the OTS program is the lack of indepth study devoted to any one area because of the time restrictions (Place, 1978; Dobias, 1974).

Post Commissioning Management Development Training

Once commissioned, management development takes the form of both formal and informal "opportunities" occurring continuously throughout the officer's career. The word "opportunities" needs to be stressed because management development becomes both a joint and an individual effort. Management development results from opportunities that the

23

supervisor must make some effort to present, and the officer must make some effort to use.

Supervisors are in the best position to determine the needs of their subordinates. The supervisor has "the responsibility for development actions such as performance evaluations, job rotation through simple-to-complex duties, and recommendations for classification, training, education and further assignments" (AFR 36-23, 1979:4-1). Once the supervisor provides the opportunities to develop management potential, it is then up to the individual to take advantage of them. "The Air Force guides and assists in career planning, but the officers must work out their individual problems and gain the knowledge and capabilities needed to advance" (AFM 36-23, 1979:4-1). This is accomplished through an integration of both formal and informal development opportunities.

Formal Training

Throughout an officers' career, they are provided with opportunities for formal educational training. These opportunities include Professional Military Education (PME) programs, the Air Force Institute of Technology, specialized management programs and self-development.

Professional Military Education. "The basic PME objective is to enhance the professional military competence of Air Force Officers through a program of education designed to broaden perspectives, increase knowledge and prepare these officers to assume higher levels of command and staff duties and responsibilities" (AFR 53-8, 1975:2-1). Three levels of education exist: Squadron Officers School, Air Command

24

and Staff College, and Air War College. Each level of education is to be given when it is most relevant to a particular stage of career development. This permits the officer to develop expertise from a progressively higher level of experience and maturity (Rogers, 1975).

The logic of the system is to have officers attend school at critical points during their career. Squadron Officer School becomes available at the point when an officer is deciding on an Air Force career. Air Command and Staff College becomes available prior to promotions to field grade. Air War College prepares the officer to assume senior field grade and general officer responsibilities (Grove, 1975). As the officer progresses in a given career and assumes the responsibilities of higher levels, the activities and decisions involve more areas outside that specialty. The PME system increases the officer's knowledge and skills in a wider perspective.

The Squadron Officer School is the first level of PME for USAF officers. Its mission "is to prepare lieutenants and captains for command and staff tasks required by the Air Force, while providing a foundation for further professional developments" (AFR 53-8, 1976:3-1).

Leadership and management development as SCS is presented separately in the course curriculum. Leadership is covered in five phases and includes:

1. An examination of Air Force standards of leadership.

2. A basic understanding of how people interact with the leadership process.

3. An examination of different leadership styles, and the situational approach to leadership.

4. A practical application of the formal instruction in
    communicative skills, leadership, and management.

5. A modified version of an assessment center which is used
    to identify individual interpersonal and administrative
    skills (Squadron Officer School Curriculum Catalog, 1977).

During the leadership block, the students appear to have an excellent
opportunity to examine their own leadership styles and reevaluate their
effectiveness in many different situations (Place, 1978:44).

The management block was designed to build upon and extend
instruction in the leadership block. Its two phases include:

1. Improving individual skills and providing a basis for under-
    standing the present Air Force management systems.

2. An examination of Air Force systems for managing its human,
    financial, and material resources (Squadron Officer School
    Curriculum Catalog, 1977).

The first phase emphasizes the behavioral aspects of management, the
second phase emphasizes "hands-on" training exposing the student to
different management systems in use in the Air Force.

Officers are selected for Squadron Officer School on a com-
petitive basis by a central selection board at major comman level.
Approximately 85 percent of all eligible officers can attend SOS in
residence (Groves, 1975). Those not selected have the option of com-
pleting SOS by correspondence. Non-selection for SOS does not eliminate
an officer from attendance at the next level of PME, Air Command and
Staff College.

26

The Air Command and Staff College is the Air Force PME school
at the intermediate level. "The mission of Air Command and Staff College
is to prepare selected officers for the command and staff duties of
majors and lieutenant colonels" (AFR 53-8, 1976:4-1).

One of three instructional areas is devoted to command and
management. This phase includes study and analysis of management fun-
damentals, command and leadership, analytical techniques of management,
and management resources. Two objectives of this block are:

1. Apply field grade leadership and management skills in

   the Air Force environments.

2. Apply selective non-quantitative decision-making techniques

   in deriving solutions to management problems (Air Command

   and Staff College Catalog, 1977).

A comprehensive review of the literature provided each
student, coupled with a random sampling of lectures conducted
in the area . . . found that a definitive explanation of the
terms 'field grade leadership and management skills" was not
readily apparent. While the scope and depth of training re-
quired for field grade leadership and management development
should be different than that conducted at SOS, the literature
revealed that ACSC is also employing a 'grass roots' approach
to the development process (Place, 1978:46).

"Grass roots" implies the same fundamental management skill introduced
in the Squadron Officer School curriculum. While ACSC should be pro-
viding higher grade officers with management skills needed for higher
level positions, the program appears to be duplicating or reinforcing
the development skills already acquired.

Officers are selected for attendance at the Air Command and
Staff College by a central selection board at Headquarters, USAF.
Approximately 18 percent of all eligible officers are able to attend.

ACSC in residence (Groves, 1975). Those officers not selected for
attendance in residence are encouraged to complete either the Seminar
Program administered by ACSC at all Air Force bases or the correspondence
course (AFR 53-8, 1979).

Air War College (AWC) is the senior level Air Force PME school.
"The mission of the AWC is to prepare senior officers for high command
and staff positions" (AFR 53-8, 1976:14-1). Management instruction con-
sists of a command and management unit which has the following general
objective:

> To comprehend factors contributing to leadership, command,
> and management of human resources in the Department of Defense;
> analytical techniques for decision making; and principle methods
> used in defense resource management (Air War College Bulletin,
> 1978:14).

Of the 167 hours allocated to the command and management unit, 80 hours
are spent on the fundamental issues and techniques of leadership and
management techniques; the remaining time is devoted to higher level,
applied learning techniques (Place, 1978).

As with ACSC, officers are selected for attendance at Air War
College by a central selection board at Headquarters, USAF. Approx-
imately 12 percent of all eligible officers are able to attend the
resident AWC program (Groves, 1975). A Seminar Program, Correspondence
Group Study and individual correspondence program are also available
for those officers not selected to attend in residence (AFR 53-8, 1976).

An examination of the Professional Military Education programs
uncovers two weaknesses. The first is the small fraction of the total
officer force given the opportunity to attend the schools. This is
particularly true with ACSC and AWC. Although a number of Air Force

officers are given the opportunity to attend equivalent schools of the other services, the percentages increase to only 21 percent for ACSC or equivalent and 16 percent for AWC or equivalent (Groves, 1975).

Secondly, "the SOS, ACSC, and AWC curriculum for leadership and management development should be integrated to reduce redundancy and overlap" (Place, 1978:86). Much of the fundamentals of leadership and management skills are presented as a part of all three programs.

Air Force Institute of Technology. The Air Force Institute of Technology (AFIT) represents the second major source of management development opportunities for Air Force officers. "The mission of the Air Force Institute of Technology (AFIT) is to provide education and training to meet Air Force requiremr ; in scientific, technological, managerial, medical, and other fields as directed by Headquarters, USAF" (Air Force Institute of Technology Catalog, 1979). This mission is accomplished through both university level educational programs and continuing education programs. The university level work is designed to provide officers with a "broad educational background that will equip them both to understand their cultural and technological environment and to analyze and attempt to solve these problems" (Air Force Institute of Technology Catalog, 1979:2). The continuing education programs are short courses designed to provide specialized training to meet specific Air Force and DOD needs.

Of the three resident schools, the School of Systems and Logistics offers the Graduate Management Programs concerned with management development. The stated purpose of these programs is "to provide selected graduate military and civilian managers with an

29

educational experience designed to enhance their ability to effectively
analyze, design, and manage complex defense systems" (Air Force Institute
of Technology Catalog, 1979:111). The graduate programs are designed
to help students accomplish the following objectives related to manage-
ment development:

1. Develop the ability to demonstrate the logic, objectives,
    and soundness of their decision-making processes.

2. Analyze complex problems, assess alternatives and develop
    and apply appropriate decision criteria.

3. Communicate effectively.

4. Deal successfully with human, material, and financial
    resources.

5. Increase their knowledge of management information systems
    and the capabilities and limitations of the computer as a
    tool for managerial decision-making (Air Force Institute of
    Technology Catalog, 1979).

The continuing education program offers 44 courses, ranging in
length from one to ten weeks to professional logisticians and systems
managers. These courses are continuously updated to meet the changing
needs of the Air Force and the DOD (Air Force Institute of Technology
Catalog, 1979). The majority of these courses provide some management
experience in specialized fields such as maintenance, logistics and
material management.

As with the PME programs, the selection process for AFIT is
competitive. Officers desiring admission to resident graduate degree
programs request a letter of evaluation. In coordination with the

major commands, AFMPC determines the applicants availability and selects

the officers for attendance. Again, as with PME, one weakness of AFIT

is the number of officers who have the opportunity to attend the

programs.

Specialized Leadership and Management Training. In addition to

PME and AFIT, the Leadership and Management Development Center (LMDC)

offers a number of programs to prepare mid- and upper-level managers

for increased responsibilities. Three programs offered include:

Professional Personnel Management Course, USAF Commander's Course, and

Base Commander's Management Course. The last two are geared specifically

for wing/group or base commanders and therefore will not be discussed.

The Professional Personnel Management Course is designed to

"contribute to the professional development of senior personnel managers"

(AFM 50-5, 1979:4-5). This five week course provides extensive instruc-

tion in such areas as the management process, management philosophy,

problem analysis, decision making, management by objective, organizational

development theory, and communication analysis. It is available only to

USAF Majors through Colonel, occupying key personnel positions at base,

MAJCOM, or headquarters, USAF level (AFM 50-5, 1979).

Based on critiques, questionnaires, and surveys administered to

graduates of the course, the overall effectiveness of the course has been

favorable (Place, 1978). As with PME and AFIT, quotas are small.

A review of the objectives of the different PME schools, AFIT

programs, and specialized management development courses indicates some

common developmental criteria. Communication skills, both oral and

written, problem solving, leadership, decision making, and resource

31

management are all stressed by the management development opportunities presented. Additionally, all the programs reviewed provide a background in basic management theory and the behavioral aspects of leadership. The primary weakness common to these programs is their limited availability. Those officers who are not given the formal training opportunities must rely on self-development and informal opportunities for management development.

Self-development. A number of programs exist which provide individual officers with the means to extend their management development experience. The effectiveness of these programs is highly dependent upon individual effort.

The Extension Course Institute (ECI) offers correspondence courses in a wide variety of subjects. The correspondence courses for the Professional Military Education Program are the primary source for management development.

Off-duty education programs are offered at most Air Force bases and are encouraged by Air Force supervisors. Management development is somewhat limited by the choices of courses available at the particular Air Force base. Additionally, these programs are not offered at smaller Air Force installations.

Informal Management Development Training

Informal management development is that training and experience that results from on-the-job involvement in the management process (Dobias, 1974). "Everything that goes on in the organization will probably effect the growth and development of managers in some way

32

and must be considered in the broadest sense a part of management development" (Tannehill, 1970:10).

The key to the effectiveness of on-the-job training for the officer lies with the immediate supervisor. Because of this, both AFM 25-1 and AFR 36-23 charge the supervisor with specific responsibilities concerning the development of their subordinates.

Managers have the responsibility to give subordinates (1) informal training in managing operational systems, (2) assistance in developing and understanding the skills necessary to manage both the human and procedural aspects of operations, and (3) assistance in developing a capability to manage competently their own components of the system. These responsibilities are to be fulfilled primarily through on-the-job coaching of subordinates (AFM 25-1, 1974).

Coaching. Coaching is an on-the-job development tool which centers primarily on the subordinate's work. Each supervisor is required to guide the subordinate's development based on prior experience. This includes establishing performance standards, regular discussion of day-to-day problems, and helping subordinate's develop management skills (Robinson, 1974). Because coaching is work-centered, it is intended to focus on the subordinate's available skills and use work-related problems to increase these skills and improve understanding of methods to resolve future problems (Dobias, 1974).

Counseling. AFR 36-23 provides more specific guidelines for supervisors. According to Table 4-1, AFR 36-23, the supervisor is required to continuously assess the subordinate's potential and develop

33

it through effective leadership and counsel, and to provide timely counsel regarding performance deficiencies and means for correction.

The Air Force defines counseling as "the act of communicating advice, instruction or judgment to influence a person's attitude or behavior" (AFM 35-16, 1979, 5-4). Whereas coaching refers to the subordinate's work-related experiences, counseling focuses on the subordinate's behavior in a broader, more fundamental sense. It refers to specific objectives and attitudes rather than the mechanics of the tasks performed. An effective counselor can substantially enhance management development by positively motivating the officer toward the development process (Dobias, 1974).

A major aspect of the counseling process is the providing of feedback to the officer as a means to improve present performance (AFR 36-10, 1978 and AFM 36-23, 1979). "More and more evidence points toward feedback as a key variable in effective management development" (Schwendimen and Albertus, 1977:42). Both AFR 36-10 and 36-23 place the burden of responsibility for providing this feedback on the supervisor. AFR 36-10 identifies two types of counseling, continuing and periodic. Continuing counseling should be performed on a day-to-day basis as the need arises. Periodic counseling represents those sessions scheduled at regular intervals, such as every six months. AFR 36-23 also provides guidelines for when counseling should be accomplished, for example, prior to the preparation of an OER, promotion, attendance at school and tender of a regular commission.

Personal experience and the results of the Quality of Life Survey, Third Edition, (McNichols, 1980), indicate a weakness exists

34

in both the coaching and counseling methods of informal management

development for Air Force officers. The cummulative experience of two

officers with 16 years service, in six assignments within four major

commands, under 14 different supervisors clearly points out a deficiency

in this area. Very little coaching is being accomplished, and any feed-

back about job performance must be requested. The results of the

Quality of Life Survey indicate that a majority of Air Force officers

are having the same experience with the informal on-the-job training

methods. According to the survey, 61.8 percent of the officers surveyed

agreed that more supervision of member performance and behavior is

needed at lower levels within the Air Force. Additionally, 38.4 percent

indicated they seldom or never received feedback from their supervisor

about their job performance.

It seems clear that a very key element of feedback on management

development occurs in the form of the officer's completed OER. This

normal occurrence is contrary to the purpose of the Officer Evaluation

System. "Evaluation reports are designed for the purpose of personnel

management of Air Force officers. They are not to be used as counseling

devices" (AFR 36-10, 1978:1-2).

Whatever the stated purpose of the OER, it does represent the

supervisor's assessment of the subordinate. How valid is the Officer

Evaluation System, or any personal appraisal system, for providing an

accurate assessment of the officer's management capabilities? Sup-

ervisory judgments often fail in their potential as a useful source of

information because supervisor's reported judgments are affected not only

by the subordinate's performance, but also by: (1) lack of training of

supervisors in how to make required judgments, (2) poorly designed
rating systems which cause judgment difficulties, (3) negative feed-
back effects which arise because the supervisor makes valid judgments
and rates some subordinates lower than others, and (4) task interference
effects which may result because of limited time or a large workload,
because the supervisor is unable to actually observe the ratee's per-
formance, or because the supervisor lacks the technical knowledge
needed to judge the ratee's potential (Rummler, 1972).

AFR 36-10, Officer Evaluation System, states three specific
problems facing the present Officer Evaluation System.

1. A tendency to give "good" ratings and a reluctance to give
   "low" ratings.

2. A tendency to rate according to a general impression of
   the officer concerned, often referred to as the "halo"
   effect.

3. Inconsistency in ratings due to evaluation differences in
   understanding the meaning of the various characteristics
   being rated, and variations in evaluation standards.

Finally, Fournies (1974:20) states five reasons why any manage-
ment appraisal system fails as a tool for management development and
provides the following summary:

> All these reasons relate to nonfunctionalism: that is the
> forms, policies, manuals, and procedures that comprise the
> program matrix not only fail as functional tools, but become
> the major obstacles to answering the needs for which the pro-
> gram was created.

The conclusion drawn is that the OER, which appears to be the primary

36

source of feedback on job performance, is often not a valid assessment of the officer's capabilities.

Job Rotation. One of the most generally accepted and widely used management development methods is job rotation. "The organization must provide, in a formal way, movement of managers in and out of learning jobs (a job that provides ample decision-making experiences sufficiently different from those currently assigned) as a part of a total system development process" (English and Marchione, 1977:38).

Job rotation is the movement of officers from job to job for training purposes as well as to meet the needs of the Air Force. "Varied assignments provide the opportunity to gain new experience and to apply past training" (AFR 36-23, 1979:4-1). Each assignment should be planned to contribute further to the officers present knowledge of the Air Force and to better prepare him or her for jobs of increasing responsibility and scope (AFR 36-23, 1979:4-1). Headquarters, USAF and AFMPC have been given the responsibility to manage the officer force to meet the following assignment goals: to fulfill present and projected authorizations, manage available personnel resources at the lowest cost, meet mission requirements, and provide full career progression opportunities. A career monitor at AFMPC is assigned to a given utilization field for the purpose of tracking officers career progression within that AFSC. One of their goals is to insure that officers are given the best opportunities to gain the varied experience needed for career progression and management development. The major restrictions with this development method are the availability of assignments and the requirement to meet Air Force needs.

Summary

In summary, this chapter has presented a review of the major formal and informal management development opportunities available to Air Force officers. Formal management development includes the management education received during the commissioning process, in the Air Force professional military education system, in the Air Force Institute of Technology programs, in specialized management development courses, and the results of the officer's individual efforts at self-development. A review of the objectives of these programs indicates the following common developmental criteria: communicative skills, both oral and written, problem solving, leadership, decision making, and resource management.

Informal management development is achieved primarily through on-the-job coaching, counseling and rotation of assignments. A very important aspect of the informal management development methods is the feedback on present job performance provided by the individual's supervisor.

This review has indicated there are limitations in the number of officers able to receive management development through the formal training opportunities. Therefore, the Air Force emphasis on management development for the majority of Air Force officers is on informal on-the-job development or self-development. Indications are that informal management development is not being implemented to the extent intended by Air Force policy. This deficiency is especially true of counseling upon which the officer can base further management development.

A technique which has potential for use in management develop-
ment is the assessment center method. The next chapter presents an
overview of the assessment center process, including its use as a
development tool.

CHAPTER IV

THE ASSESSMENT CENTER METHOD

Introduction

There is an abundance of material written on assessment centers.
Over fifty articles from periodicals, books, research reports, and
symposia were reviewed. No attempt is made here to cover that material
in great depth, but rather an overview is given in the following areas:
evolution, uses, design considerations, validity, and military appli-
cations.

Evolution

Assessment procedures were first used on a large scale by German
military psychologists to select officers during World War I (OSS, 1948:1).
In 1942 the British formed the War Office Selection Board (WOSB) to
select officers for the British Army. They patterned the WOSB after
the German procedures and devised additional assessment techniques as
well, such as the leaderless group discussion (Huck, 1977:263).

The first use of the assessment center in the United States was
by the Office of Strategic Service (OSS) -- set up to evaluate the
qualifications of candidates to serve as overseas intelligence agents
during World War II (MacKinnon, 1975:1). The final report of the OSS
Assessment Staff was published in a book entitled Assessment of Men
(OSS, 1948). This report generated considerable interest in assessment
center techniques, largely because of the contrast with traditional

paper-and-pencil selection methods (Bray, 1976:16-2). The enthusiasm was dampened somewhat however, by disappointing validity studies conducted by the OSS Staff (MacKinnon, 1975:2).

The assessment center method was first applied to American industry in 1956 when the American Telephone and Telegraph Company (AT&T) began the Management Progress Study, a longitudinal research program designed to follow the growth and development of a sample of young managers (Cohen, Moses, and Byham, 1974:6). The first AT&T assessment center was fashioned after the OSS Center and staffed by professional psychologists (Bray, 1976:16-2). A total of 274 managers were assessed and then reassessed eight years later (Bray, Campbell, and Grant, 1974:8). Results of the study were not revealed to management, but were used for research purposes only.

The first operational assessment center was established at Michigan Bell in 1958 for use in the selection of entry-level managers (Cohen, Moses, and Byham, 1974:6). The establishment of this center marked the beginning of a new era for assessment centers, since it was staffed entirely by laypersons and not dependent on professional assessors (Bray, 1976:16-2). In the early 1960's several other companies began using assessment centers. These included Standard Oil of Ohio, IBM, General Electric, Sears, Wickes, and J.C. Penny (MacKinnon, 1975:3)

Since the OSS, the first major use of the assessment center method in the Federal Government was by the Internal Revenue Service (IRS). The IRS program first started in 1969 to identify first-level supervisors. Since then, it has been expanded to select candidates for an Executive Development Program. Other federal agencies using assessment centers

41

include the Civil Service Commission, Office of Management and Budget, Federal Aviation Administration, Social Security Administration, Department of Housing and Urban Development, the U.S. Army, and the U.S. Air Force (Byham and Wettengel, 1974). State governments, as well as foreign governments have also implemented assessment centers. Byham and Wettengel (1974) provide an excellent overview on government usage of assessment centers.

MacKinnon (1975:5) states that the rapid multiplication of assessment centers is largely due to the establishment of managerial consulting companies that assist clients in setting up assessment centers. Three of these firms are the American Management Association, Development Dimensions, and Assessment Designs. In 1980, over 2000 organizations are using assessment centers (Curran, 1980).

Uses of Assessment Centers

Just as there are many organizations using assessment centers, they are used for many purposes. In reviewing the literature, the following uses were found: employment, early identification, placement, advancement, development, affirmative action, and training. Each of these uses is commented on below.

Only a few examples were found of organizations which use the assessment center to aid in employment decisions. Usually, such applications involved recent college graduates applying for management jobs or individuals applying for sales jobs. "Several Bell Systems telephone companies as well as Sears, Roebuck have used assessment centers in the college employment process" (Bray, 1976:16-5). The U.S. Army has also

42

used assessment centers in a similar capacity as precommissioning

screening devices (Veaudry and Campbell, 1974:24). Bray (1976:16-6)

notes that both candidates for management and sales jobs have "shown

a clear willingness to be assessed, even when their own time is involved."

The assessment center has also been used to help identify people

with management potential early in their careers (Kraut, 1976:31).

"There are many situations in which management potential must be iden-

tified at an early stage so various administrative actions can be taken"

(Byham, 1971:11). Bray (1976:16-7) summarizes the use for early iden-

tification as follows:

> The purpose of the assessment is not to render a final
> judgment of the candidate's promotability to management levels,
> but rather to identify those who have promise for the future.
> The intent is to give those with high potential special devel-
> opment opportunities and accelerated treatment so that they can
> reach target positions significantly earlier than might other-
> wise be the case.

Placement is seldom used as a purpose of assessment. According

to Bray (1976:16-7), this is most likely because assessment is usually

aimed at a more general management level rather than at specific jobs.

Assessment is, however, often a factor in placement of individuals in

jobs that will best suit their talents and provide development essential

for a long-term career (Kraut, 1976:32).

The most frequent use of the assessment center is for advance-

ment or promotion purposes (Bray, 1976:16-7). Assessment for promotion

occurs at all levels of management. "It is probably most common at the

lower levels, but many organizations restrict their assessment to middle

managers" (Bray, 1976:16-7). Many authors report that the assessment

center leads to better promotion decisions which are based on realistic

43

systemmatically gathered data (Gray, Campbell, and Grant, 1974; Cohen,
Moses, and Byham, 1974; MacKinnon, 1975; Kraut, 1976; Norton, 1977;
and Hinrichs, 1978).

Although not usually the primary purpose, assessment centers
are also used for development purposes. In numerous articles, authors
extol the virtues of the assessment center for use as a professional
development tool (Byham, 1971; Kraut, 1972; Byham and Wettengel, 1974;
Veaudry and Campbell, 1974; MacKinnon, 1975; Bray, 1973; Kraut, 1976;
and Boehm and Hoyle, 1977). The degree to which a center is used for
development varies. "Some organizations use assessment programs exclu-
sively for personal development in order to help people diagnose their
competencies and to help improve them" (Kraut, 1976:32). Preparation
of individual development plans is usually a primary or strong secondary
objective of assessment centers only above the bottom level of management.
This is true because a large proportion of those assessed at the bottom
level will not advance to management (Byham, 1971:11). Whether or not
an intended purpose of an assessment center, most participants report
increased self-insight into strengths and weaknesses after being
assessed, and that insight is fairly accurate according to Byham (1971:12).
Cray (1976:16-7) offers the following explanation for why there are few
assessment centers for development only:

> It has proved difficult for organizations to stick to a
> strict developmental model in their assessment activities. Once
> extensive evaluative information on individuals is available, the
> pressure to use that information as a ide to advancement and
> placement is extremely strong.

Boehm and Hoyle (1977:206) conclude that there is a "logical
relationship" between assessment and development. They explain this

44

relationship as follows:

> The ultimate goal of assessment center programs is essentially
> the same as the wide variety of existing development strategies --
> to maximize individual effectiveness (job preference) and conse-
> quently the attainment of organizational success.

An example of a program which combines assessment and development is the

Leadership Development Program used at the U.S. Air Force Squadron

Officer School.[1] Students are assessed during the first two weeks and

then given the opportunity to participate in a development program to

work on identified weaknesses or other areas of interest during the last

nine weeks (Vincent, 1980). MacKinnon (1975:32-33) feels that the com-

bining of assessment and development may be the wave of the future. As

an example, he cites Development Dimensions Inc., which offers a full

range of modules for the development of managerial skills, in conjunc-

tion with their assessment services.

A relatively new purpose of assessment centers is for use in

affirmative action programs. It is important to couple such programs

to early identification programs in order to speed along the advancement

of minorities and women. "Normal processes of identification, develop-

ment, and advancement are often lengthy, and it is particularly necessary

to identify minority-group members with higher potential so that they

can be moved along more quickly" (Bray, 1976:16-8). A good example may

be found at AT&T, where management potential in blacks and women is

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[1] The assessment center used at SOS was patterned after the ASD
Management Assessment Center operated at Wright-Patterson AFB, Ohio, in
1974 and 1975. It also contains dimensions usually found in management
assessment centers, such as problem solving, flexibility, motivation,
forcefulness, willingness to lead, etc. For these reasons, the SOS
assessment center is considered to be a management development tool.

45

identified during their second year of employment so that appropriate

training and development activities can be planned (Byham, 1971:11).

Norton and Edinger (1978:21) explain how the Federal Government has

promoted the use of the assessment center for affirmative action:

> Federal enforcement agencies such as the Civil Service
> Commission have encouraged organizations to use assessment
> centers. The fact that the assessment center is a good sample
> of the job of a manager may make it less subject to legal chal-
> lenge on Equal Opportunity grounds.

A final purpose of assessment is for the evaluation of training

programs. Steiner (1975:237) states that the assessment center "can

be used as a highly accurate means for evaluating executive development,

or other types of training programs." He advocates the use of control

and experimental groups. The experimental group would receive training,

while the control group would not. Then, both groups would be assessed

to evaluate the effectiveness of the training. Bray (1976:16-14) advo-

cates a similar approach and suggests "It may be that the assessment

center approach can finally throw some light on the overall effective-

ness of management training in pinpointing its strengths and weaknesses."

MacKinnon (1975:10) provides an appropriate summary concerning

the purposes of assessment centers:

> Broadly speaking, the purpose of assessment centers in
> business and industry is to identify managerial potential for
> purposes of selection, placement, promotion, or development
> (or some combination of these), but which of these is most
> stressed varies from program to program.

It also appears that assessment centers will play a greater role in

affirmative action and training evaluation in the future.

Design Considerations

Although there are multiple uses of assessment centers, and even though there is no set pattern for design of an assessment program, there are certain considerations which must be taken into account when setting up a new assessment center. Some of these considerations are highlighted below. A set of guidelines endorsed in 1975 by the Third International Congress on the Assessment Center Method is included as Appendix A. Hereafter, any reference to these guidelines will be referred to as "the Standards".

The most important point in designing an assessment center is to have the support of the organization, especially top management. Also, regardless of the purpose, "Assessment centers should be incorporated as part of a total system rather than as a process that operates in a vacuum" (Moses, 1975:4).

Once organizational support is established it is necessary to define the target job for assessment and to identify the dimensions critical to success in that job. Bray (1976:16-8) describes this process as follows:

> Methods of identifying the dimensions to be used may include job analysis and descriptions, but they are most often based on special interviews with line and staff managers in the organization who supervise the level of work in question or who have special staff knowledge thereof.

In order to defend the fairness and soundness of the assessment center it is also important to maintain a well-documented record detailing the process which leads to the dimensions being assessed (Byham, 1978:4).

Few assessment centers use exactly the same exercises, however, all rely heavily on simulations designed to elicit multiple dimensions

47

from the participants. The simulations are based on situations the
candidates are likely to face in the target job. Gray (1976:16-9)
offers the following advice:

> In planning the assessment center, there should be a good
> amount of redundancy between exercises so that a particular
> dimension can be seen in more than one setting. The more of
> this the better, since it adds to the reliability of judgments
> of the various dimensions.

Exercises common to most assessment centers include an in-basket, leader-
less groups, and a management problem. The content will differ however,
depending on the type job and management level. For additional infor-
mation, a thorough discussion of assessment center techniques is pro-
vided by Crooks (1977:69-87).

Assessors are usually either professional psychologists or man-
agers two or three levels above the candidates and not in a supervisory
capacity over them. Assessors should be carefully selected. "The basic
criteria for the position of assessor have been familiarity with the
position in question, a successful career as a manager and possessing
skills much like the ones on which the candidates are to be evaluated"
(Jaffee and Frank, 1978:51). "The ratio of assessors to assessees is
usually about one to two or three" (MacKinnon, 1975:9).

When nonprofessional assessors are used, they must be trained
before the center begins. "Training time for assessors can range from
one day to three weeks and time spent on an assessment assignment will
vary from one week to one year in duration" (Jaffee and Frank, 1978:52).
There are many methods employed to conduct assessor training. Byham
(1970:157) provides the following information on assessor training:

The most common method of training is by understudy. In the usual situation, an assessor-in-training sits through an entire assessment cycle as a nonvoting member. Another method of assessor training, particularly when assessment centers are being introduced, is to have the assessors go through the assessment experience first as candidates. Everything is the same except that there are no assessors present. In a typical training situation, the assessors go through an activity such as group discussion, and then critique the discussion and identify possible areas of observation afforded by the situation. Several companies videotape activities to give assessors practice in making observations.

The Standards in Appendix A provide additional information on assessor training and list minimum training requirements. Also, the management consulting firms such as Development Dimensions, Inc. provide assessor training services.

Individuals may become candidates for assessment either by self-nomination, nomination by their supervisor, or automatically at certain career points. According to Howard (1974:119), it is contradictory to select candidates based on their supervisor's nomination "since a basic purpose is to find a better way of rating potential than reliance on the supervisor's judgment." Basic information which should be provided to participants is listed in Appendix A.

Although it is the final design consideration to be discussed here, feedback is one of the most important factors in an assessment center. Except for programs which are purely research in nature, practically all assessment centers provide some form of feedback either to the organization, the candidate, or both. The purpose of the center will influence the type of feedback. A center used for management development will emphasize future needs and will provide feedback to the candidate and to the supervisor in most cases. Whether or not the supervisor

49

is included is often left up to the candidate (Gray, 1976:16-10).

MacKinnon (1975:10-11) describes the content of the feedback as follows:

> The content of the feedback usually includes a description
> of the candidate's performance in the assessment center, an
> indication as to how he was viewed by his peers as well as by
> the assessment staff, a review of his judged strengths and
> weaknesses, and in some instances, an outlined plan for his
> future development as a manager or even as a person. The
> giver of the feedback is usually the staff member who wrote
> the report on the candidate.

Another type of feedback is the written report prepared for the
organization. The written report may be used in both centers designed
for selection or promotion, as well as centers designed for development.
MacKinnon (1975:142) also comments on the written report:

> In general, reports are of one or two kinds, depending upon
> the purpose of the assessment program. Most typically they
> describe the performance of the candidate in the assessment
> center, and provide ratings of the candidate on the rated vari-
> ables, with an overall rating of the candidate's managerial
> potential if selected or promoted. In companies that use the
> assessment findings in creating tailor-made programs for the
> development of their personnel -- both as persons and as man-
> agers -- a second report, or a second part of the single report,
> is concerned with developmental recommendations.

Practices regarding feedback vary from organization to organi-
zation. Slivinski and Bouregois (1977:143-159) have surveyed a number
of organizations to review and contrast feedback practices. Their con-
clusions are as follows:

> While the feedback procedures generally adopted by most
> of the organizations emphasize both the selection and the
> developmental aspects of the assessment center data, most
> organizations are becoming more and more developmental in
> their emphasis.

These are some of the principal areas to be considered when
designing an assessment center. Although a new center can be patterned
after existing centers, each application of the assessment center must

be considered a special case and planned accordingly. For additional information, Jeswald (1977:45-66) provides a thorough overview on issues involved in establishing an assessment center.

Validity

The literature review on assessment center validity is divided into three main areas -- content validity, predictive validity, and internal validity. Content validity is concerned with how accurately the assessment center represents the target job. Predictive validity is concerned with "correlations and other data showing relationships between the evaluations and subsequent 'success' in management" (Huck, 1977:262). Internal validity is concerned with "factorial results and the correlations between the various assessment techniques and the assessment ratings" (Huck, 1977:264). These results may be used to determine the consistency of ratings and raters. The results may also lead to observations concerning relationships among dimensions and between dimensions and the overall rating.

An assessment center "is validated through content validity by showing that it is related in content to a significant and consistent aspect of successful behavior in the job being filled" (Norton, 1977:445). The initial step in establishing content validity is to conduct a thorough job analysis of the target job. This can be done either through a survey of successful managers familiar with that job or through a work sampling study in which persons in the target job are observed. As part of the job analysis, the dimensions to be assessed will be defined. Once dimensions are defined, exercises are selected or developed which will bring out the desired dimensions. After assessors have been

51

trained to observe and record the identified dimensions, a pilot center she... be run to work out any problem and give the assessors the opportunit... ... ous... ve actual behavior. When these steps are carefully followed and documented an assessment center may be said to have content val... ity.

Predictive validity studies have been carried out by many organizations. Numerous authors have published reviews on such studies including Cohen, Moses and Byham (1974), Howard (1974), MacKinnon (1975), Huck (1977), Klimoski and Strickland (1977), and Norton and Edinger (1978). For their 1977 article, Klimoski and Strickland (1977:354) reviewed over ninety studies and found "few validity studies per se being publ...hed after 1972." Table 4-1, from their article, summarizes the "primary source validity studies on ass... i... ent centers" (Klimoski and Strickland, 1977:355).

The only major validity study found since the Klimoski and Strickland article was a follow-on study of IBM managers by Hinrichs (1978). In the study, 47 individuals were assessed in 1967 to predict advancement in management and then followed up eight years later. This study appears to be the only "pure" validity study since the AT&T Management Progress Study. The assessment center results were "not used administratively over the eight years so the data were not contaminated" (Hinrichs, 1978:597). The follow-up criteria used were actual position level attained and change in position level. The study also used an independent evaluation of management potential made by two managers in 1967. Correlation results are shown in Table 4-2.

52

TABLE 4-1

VALIDITY STUDIES OF OVERALL ASSESSMENT RATINGS FROM PUBLISHED SOURCES

SOURCE	CRITERIA	ASSESSORS	COMPANY
Bray & Grant, 1966	Management level, salary, and salary progress	Psychologists	AT&T
Campbell & Bray, 1967	Ratings, ranking and number of promotions	Mixed[a]	AT&T
Bray & Campbell, 1968	Special performance review	Managers	AT&T
Wollowick & McNamara, 1969	Increase in responsibility	Managers	IBM
Hinrichs, 1969	Salary standing	Managers	IBM
Carleson, 1970	Ratings, salary progress, and number of promotions	Mixed	SOHIO
Thomson, 1970	Ratings (timing of criterion measures varied)	Mixed	SOHIO
Jaffee, Bender, & Calvert, 1970	Interview with superior	Managers	Union Carbide
Kraut & Scott, 1972	Promotions and demotions	Managers	IBM
McConnell & Parker, 1972	Ratings, but obtained concurrent with assessment center	Managers	Various
Ginsburg & Silverman, 1972	Ratings, but obtained concurrent with assessment center	Managers	Hospital
Thoreson & Jaffee, 1973	Ratings, but obtained concurrent with assessment center	Managers	Rohem & Haas
Byham & Wettengel, 1974	Ratings, but obtained concurrent with assessment center	Managers	State Government
Moses & Boehm, 1975	Management level achieved	Managers	AT&T
Mitchel, 1975	Salary growth	--	SOHIO
Worbois, 1975	Ratings, but obtained concurrent with assessment center	Managers	--
Huck & Bray, 1976	Rating & Ranking	Managers	AT&T

a "Mixed" includes some combination of managers and psychologists.

(Klimoski and Strickland, 1977:356)

53

TABLE 4-2

CORRELATION RESULTS OF HINRICH'S STUDY

Predictor	Position Level		Change In Position Level
	Yr 1	Yr 8	Yr 1 to Yr 8
Assessment Center	.26*	.46*	.22
Manager	.32*	.55*	.22
n	47	30	30

*p ≤ .05

Hinrichs (1978:597) concludes as follows:

> While the manager's prediction based upon a careful review
> of personnel records predicts the 8-year criterion more signif-
> icantly than does the assessment center, the shrunken multiple
> correlation of the two together is .58 . . . . Both predictors
> do significantly and independently predict the criterion after
> eight years.

The AT&T Management Progress Study is cited frequently as the
most important, most comprehensive and one of the only "pure" predictive
validity studies (Cohen, Moses, and Byham, 1974:10; Howard, 1974:122;
MacKinnon, 1975:19; and Norton, 1977:446). The correlation of the
assessment center rating (predicting making or not making management)
"with actually making middle management was .44 for college graduates
and .71 for non-graduates" (Norton, 1977:446).

In their review, Cohen, Moses, and Byham (1974:10) summarized
nineteen research studies taken from a variety of industrial settings.
They computed the median validity coefficients to summarize the accuracy
of prediction. The median r was .33 in predicting job performance;
median r was .63 in predicting job potential; median r was .40 in

54

predicting job progress; and the overall median r for all studies was
.37 (Cohen, Moses, and Byham, 1974:21).

In another study, Norton (1977) compared the validity of
assessment centers with traditional methods for predicting managerial
success. Norton (1977:442-443) states the following conclusions:

> A review of this literature shows that the validity of the
> managerial assessment center as a predictor of managerial success
> is stable across different organizations and different managerial
> positions. Comparisons with the literature on traditional methods
> for predicting managerial success reveals that the average valid-
> ity of the assessment center is about as high as the maximum
> validity attained by use of these traditional methods.

A common problem in predictive validity studies concerns the
selection of criteria to measure management success. In discussing this
problem in their article, Klimoski and Strickland (1977:355) take the
position that the frequently used criteria listed in Table 4-1 "may
have less to do with managerial effectiveness than managerial adaptation
and survival." Possible reasons given for use of these criteria include
easy access and ready acceptance by operating managers. They point out
that "little published research exists comparing alternative predictors
with assessment center predictions" (Klimoski and Strickland, 1977:357)
As possible alternatives they suggest biographical data, peer nomi-
nations, and training director or supervisory ratings or rankings.

In reviewing the literature on internal validity, most articles
included inter-rater reliability and factor analysis. Since assessment
centers use multiple assessors, the issue of inter-rater reliability is
important because it is a measure of consistency between assessors. A
summary of inter-rater reliability data published by Howard (1974) is
shown in Table 4-3. Howard (1974:122) concludes that "Inter-rater

TABLE 4-3

SUMMARY OF INTER-RATER RELIABILITY STUDIES OF ASSESSMENT PROCEDURES

Source	Company	Variables	Assessors	Inter-rater Reliability
Thomson (N=71)	SOHIO	13 dimensions	2 psychologists	Ratings: .73 – .93 $\bar{r}$ = .85[a]
Thomson (N=71)	SOHIO	13 dimensions	3 managers	Ratings: .78 – .95 $\bar{r}$ = .89[a]
Thomson (N=71)	SOHIO	Potential	2 psychologists	Ratings: .89[a]
Thomson (N=71)	SOHIO	Potential	3 managers	Ratings: .93[a]
McConnell & Parker (N=12)	AMA client	a) 12 categories b) Potential	5 managers 5 managers	Ratings: .64 – .90[a] Ratings: .83[a]
McConnell & Parker (N=12-48)	6 AMA Clients	overall management ability	5 managers	Ratings: .85 – .98[a]
Greenwood & McNamara (N=288)	IBM	a) Task force game b) Leaderless group c) manufacturing problem	All pairs of 3 alternating observers	a) Ratings: .70 Rankings: .71 b) Ratings: .66 Rankings: .64 c) Ratings: .74 Rankings: .75
Bray & Grant (N=355)	AT&T	a) Leaderless group b) Manufacturing problem c) In-basket	2 psychologists 2 psychologists 2 psychologists	a) Ratings: .75 Rankings: .75 b) Ratings: .60 Rankings: .69 c) Ratings: .92
Grant, Bray & Katkovsky (N=355)	AT&T	9 variables from projective tests	2 psychologists	Ratings: .85 – .94[a]
Grant & Bray (N=355)	AT&T	18 variables from interview data	2 psychologists	Median = .82 college .72 non-college

[a] Internal consistency estimates, correction for number of assessors (Howard, 1974:121)

56

reliabilities for assessment evaluations and for several assessment

components seem sufficiently high to support their further use."

Further analytic studies also contribute frequently to studies

on internal validity. Howard (1974:117) reports that the number of

dimensions ranged from 10 to 52 in the companies she studied. The

purpose of factor analysis is to break a large set of variables or

dimensions into basic elements or structure. A comprehensive summary

of factor analytic studies is given by Huck (1977:275-2` `). As Huck

(1977:276) points out, "A direct comparison of these factor studies

is not possible due to the differences in variables, variable interpre-

tations, assessment techniques, and objectives of each program." In a

later article, Sackett and Hakel (1979:136) conclude that "A small

number of dimensions, namely, leadership, organizing and planning, and

decision making serve to define the underlying factor structure."

A recent article by Norton, Dunne, and Thornton (1980) includes

a number of techniques applied to an internal validity study. Among the

techniques used are the following: correlations among final dimension

ratings; correlations between final dimension ratings and overall assess-

ment; correlations of dimensions observed in simulations with final

dimension ratings and overall assessments; inter-rater reliability;

factor analysis; and multiple regression of final dimension ratings on

overall assessment. This article provides a thorough example of an

internal validity study.

Although a great deal of research has been done to show the

validity of the assessment center technique, the validity of a particular

assessment center should not be taken for granted. Moses (1975:9)

emphasizes this point as follows:

> The historical record of validity . . . cannot be taken as
> a guarantee that a given assessment program will or will not be
> valid in a given setting. Because of this, each user must ascer-
> tain the validity of the program as applied to one's organization.

Military Applications

The final portion of this literature review is concerned with

the use of assessment centers in the military. A number of research

reports have been written concerning the use of the assessment center

in military organizations. Six of these reports are summarized in the

following paragraphs.

Among the military services, the U.S. Army has conducted

perhaps the most extensive research on assessment centers. Smith (1978)

provides an overview of the pilot assessment center established in 1973

at the U.S. Army Infantry School (USAIS) at Fort Benning, Georgia. The

initial Army research had two major purposes, stated as follows by

Smith (1978:1):

> One was to determine the validity of the assessment process
> for predicting performance in Officer Candidate School and also
> in junior officer assignments . . . . The second purpose . . .
> was to test the value of assessment and counseling as a personal
> career development aid.

The pilot program was completed in December 1974. Analysis of initial

results was limited to inter-rater reliability and factor analysis.

Plans were also made to collect data on future performance for sub-

sequent validity studies. Details on the Army research are described

in numerous follow-on reports.

Of special interest to this thesis is a report on the USAIS

assessment center written by Salter and Omstead (1974). Their report

focused on two areas. The first area of research involved development of an instrument for collecting performance data to be used in validation studies. The other area of research was an analysis of feedback methods for conducting post-assessment counseling sessions. All counselors in the Army program also served as assessors, however "a counselor may or may not have previously served as an assessor for an individual later assigned to him for counseling" (Salter and Olmstead, 1974:38) The elements of a typical counseling session are described in Figure 4-1. As part of the analysis, counselors were asked what methods seemed particularly effective in capturing the assessee's attention and motivating him. Some of these methods are described in Figure 4-2.

Smith (1977) examines the use of the assessment center technique at the U.S. Air Force Squadron Officer School (SOS). He describes the use of assessment centers at SOS during 1975-1977 and discusses the importance of counseling in the SOS program. The primary emphasis of Smith's report is on the use of assessment in the leadership development of SOS students. He discusses how an assessment and development program can be combined and provides an example to illustrate. Smith (1977:42) "credits SOS with making a determined effort to improve its leadership development program but suggests there is still room for further growth and improvement." The main area of improvement called for is to offer both section commanders and students more spedific guidance about the assessment process and its' place in the SOS Leadership Development Program (Smith, 1977:42).

McAdoo (1979) also conducted research on the SOS assessment program. According to McAdoo (1979:3), the purpose of his study was to

Phase I: Establishing rapport - Casual conversation to establish a
relaxed, informal climate and reduce possible anxiety.

Phase II: Introduction

    A. Discussion of the concept and purpose of the counseling session.

        1. Mutual agreement on the role of the counselor and the role
           of the counselee.
        2. Encouragement of active assessee participation and note
           taking during the session.

    B. Review and discussion of the assessment process.

        1. Discussion of exercises (e.g., naming and reviewing the
           actual exercise, discussion of the development, and
           purpose of some or all).
        2. General discussion of the purpose and background of the
           leadership dimensions.

Phase III. Feedback of assessment results for each dimension. The
following steps occur for each dimension:

    A. Name dimension and ask assessee to define it.

    B. State the official definition and reach consensus with the
        assessee.

    C. Ask the assessee to analyze his performance on the dimension.

    D. Provide the counselor's findings concerning the assessee's
        performance.

    E. Support the assessment conclusions with examples of specific
        behavior from assessor's reports and/or videotape segments,
        if appropriate.

    F. Encourage two-way discussion of the feedback.

    G. Ask assessee to suggest ways to improve performance on this
        dimension, if needed.

    H. Present counselor recommendations for corrective actions or
        remedial programs.

Phase IV: Conclusion of counseling session

    A. Obtain general feedback from the assessee in the form of
        questions and the assessee's summary of the counselor's
        observations and recommendations.

    B. Summarize, administer post-counseling questionnaire, and
        terminate session with an effort to establish continued rapport.

Figure 4-1

USAIS ASSESSMENT CENTER:
ELEMENTS OF A TYPICAL COUNSELING SESSION.
(Salter and Olmstead, 1974:42)

I. High-impact feedback

    A. Verbal feedback from counselor followed by videotape support.

    B. Comparison of the assessee's performance with that of his peers.

    C. Participative interaction which aids the assessee in analyzing own actions and achieving insight into his own weaknesses.

    D. A counseling approach which convinces the assessee that the counselor has a genuine concern and interest in him as an individual.

II. Motivating approaches.

    A. Asking assessee to suggest a course of action he might take to improve his performance in a particular area.

    B. Demonstrating the relevance of skill in a particular dimension to present real-life army situation and to future career progression.

    C. Sharing of personal experiences in which the counselor had found skill in an area to be particularly important.

III. Additional motivating methods.

    A. Individualized instruction programs in the Infantry School tailored to meet the needs of the individual assessee.

    B. Periodic follow-up interview either on a regular basis or upon the initiative of the assessee.

Figure 4-2

USAIS ASSESSMENT CENTER:
EFFECTIVE COUNSELING TECHNIQUES
(Salter and Olmstead, 1974:43-44)

61

establish "the criterion validity of the dimensions of behavior used at SOS when assessing students." His study may be divided into two areas.

First, he computed the correlations of the assessment center dimension ratings, pretest scores, and reading scores with performance at SOS. These results are shown in Table 4-4. The academic score was a raw score based on test results. The leadership evaluation was a consensus of nine faculty members based on their "judgment of how effective the individual was in influencing a group to accomplish a specific task" (McAdoo, 1979:23-24). The overall performance was based on both academic score and leadership evaluation, plus writing and speaking grades. Note that academic score, leadership evaluation, and overall performance were also included as dimensions in Table 4-4.

The other part of McAdoo's study consisted of a regression analysis using leadership evaluation as the criterion variable and the assessment center dimension ratings as the potential predictor variables. His results indicated that acceptance of responsibility, forcefulness, and interpersonal skills were the strongest predictors of final leadership evaluation.

In addition to reporting the results of his analyses, McAdoo made several recommendations. Perhaps the most significant recommendation was that the assessment ratings of SOS students be retained as a basis for a longitudinal study of leadership in the Air Force.

Francis (1978) describes some problems in applying traditional methods to Air Force evaluation, promotion, and selection systems. She discusses the use of the assessment center as a possible solution to

62

TABLE 4-4

CORRELATION RESULTS OF McADOO'S STUDY

Dimension	Leadership Evaluation	Overall Performance	Academic Score
Acceptance of Responsibility	.519	.482	.208*
Forcefulness	.482	.424	.365
Willingness to Lead	.475	.382	.293
Motivation	.380	.433	.213*
Interpersonal Skills	.372	.292	.138*
Flexibility	.321	.205*	.106*
Organizing Skills	.311	.299	.215*
Problem Solving	.253	.330	.235
Pretest	.361	.342	.627
Reading Test	.268	.348	.496
Leadership Evaluation	1.000	.687	.402
Overall Performance	.687	1.000	.675
Academic Score	.402	.675	1.000

$N = 83$ significance: $p < .05$, except as noted

*$p \geq .05$

some of these problems. Areas mentioned for application of assessment

techniques include initial officer selection, several applications for

development, and selection of personnel for sensitive jobs. Francis

(1978:54) concludes as follows:

> e U.S. Air Force has a number of personnel management
> problems such as selection, evaluation, promotion, development,
> and retention which might profit from the use of an objective
> and unbiased technique such as the assessment center process.

In a similar study Geiger (1977) examined the use of the assess-

ment center in screening applicants and selecting candidates for the

Marine Corps Officer Candidate School program. The following comments

were offered by Geiger (1977:4) concerning the importance of the

selection and development process:

> Since the military is a totally closed system, whereby all
> assignments and all promotions are made from within, it is
> essential that the initial selection process and continuing
> development of officers be as discriminating and efficient
> as possible.

He investigated both conventional methods and the assessment method of

identifying leadership and management potential. Geiger (1977:ii) con-

cludes that the assessment center "has potential as a cost effective

adjunct to present officer candidate selection methods and is both

feasible and applicable."

The review of these six articles has shown that the assessment

center process is applicable to the military and the Air Force in

particular. Beyond merely discussing potential military applications,

actual assessment centers conducted by both the Army and Air Force were

referenced.

64

Summary

There is no lack of literature regarding assessment centers. This review has broadly covered the literature in describing the history and growth of assessment centers, some of the many uses, some design considerations, the issue of validity, and applications to the military.

Although a considerable amount of research has been done, additional research is needed before assessment centers become operational in the Air Force. The SOS assessment program should be continued and data collected for longitudinal studies. Also, pilot assessment centers for development and perhaps other purposes should be established in other settings to gather additional data to be used in establishing the effectiveness of the assessment center method in the Air Force. This last point is addressed later in this thesis.

With this overview, the next chapter is devoted to a detailed validity study of a specific assessment center, which may be useful as a pilot assessment center for officer development.

CHAPTER V

VALIDATION

ASO Management Assessment Center

In 1973, an assessment center was specially designed to evaluate
Air Force civilian employees for first level supervisory positions. The
employees were scientists and engineers at Wright-Patterson AFB (WPAFB),
Ohio. Most were at the GS-12 and GS-13 level. This center was operated
in 1974 and 1975 by the Aeronautical Systems Division (ASO) Civilian
Personnel Division. The assessment center was called the "ASO Manage-
ment Assessment Center" and will be hereafter referred to as "the ASO
Center."

At WPAFB, the jobs performed by military scientists and engineers
are essentially identical to the jobs performed by their civilian counter-
parts. Because of this and also because the results were used for both
selection and development purposes, the ASO Center was examined for
future application to management development of Air Force officers. This
examination included a validity study which is reported in this chapter.

The validation effort was divided into an examination of content
validity and an empirical validity study. Since a thorough job analysis
was performed, the content validity is briefly reviewed and summarized.
The empirical validity is based on data collected during the operation
of the ASO Center. Results and conclusions based on the statistical
analyses are reported.

Content Validity

As stated in Chapter IV, content validity is concerned with the accuracy of the assessment center in representing the target job. The content of the ASD Center is examined in the following areas: job analysis, dimensions, exercises, feedback, assessor selection, assessor training, and trial run and evaluation. Finally, the overall content validity is summarized.

Job Analysis

The job analysis for the ASD Center was performed by Dr. Joseph L. Moses of Assessment Associates, Inc. Based on interviews with six second level supervisors, Dr. Moses prepared a Supervisory Abilities Inventory designed to collect and rank characteristics essential in a first level supervisory position. The Supervisory Abilities Inventory is included as Appendix B.

The inventory was distributed by the ASD Civilian Personnel Office to approximately 700 first and second level supervisors in ASD and the Air Force Acionics Laboratory (AFAL). Responses were received from a total of 147 supervisors.

In addition to determining supervisory characteristics, the Supervisory Abilities Inventory was also used to determine whether any significant differences existed between ASD and AFAL concerning their characteristics. The final report indicated that there were only minor differences between the two organizations as to qualities needed in a first level supervisor. The complete job analysis is included as Appendix C.

Dimensions

The job analysis identified 15 dimensions critical to success as a first level supervisor. One dimension, "originality", was dropped after a trial run of the assessment center. This was based on the recommendations of Dr. Moses and the assessors due to problems in observing this dimension (Bryant, 1980). The final 14 dimensions and their definitions, as used in the ASD Center, are given in Figure 5-1.

Exercises

The assessment center exercises were selected or designed by Dr. Moses to measure the dimensions listed above. The exercises used in determination of the overall assessment rating included a background interview and five simulations. These exercises are described in Figure 5-2. Table 5-1 shows the dimensions observed in each exercise.

Feedback

Three types of feedback were given upon completion of a center. Each candidate received a personal, private interview with an assessor a few days after completing the center. The interview lasted approximately one hour and included a comprehensive analysis of the candidate's performance during the assessment center. Prior to the interview, each candidate was asked to complete a "Career Development Inventory" which was then discussed during the interview and recommendations made where appropriate. The candidate's first level supervisor also received a verbal report from the assessor, and a notice of the overall assessment rating. The second level supervisor of the candidate received a written report prepared by the assessor.

1. Oral Communications Skills (OC): To what extent can this individual effectively express his ideas orally?

2. Leadership (LE): To what extent is this individual able to get others to work together effectively in a group?

3. Energy (EN): To what extent does this individual maintain a high level of activity?

4. Forcefulness (FO): To what extent is this individual able to command attention from others?

5. Persuasiveness (PE): To what extent is this individual able to sell his point of view to others?

6. Flexibility (FL): To what extent can this individual adjust to new situations easily?

7. Empathy (EM): To what extent does this individual exhibit a concern for others?

8. Stress Tolerance (ST): To what extent is this individual able to respond appropriately to stressful conditions?

9. Risk Taking (RT): To what extent is this individual willing to take either risk or responsibility to achieve objectives?

10. Acquiring Information (AI): To what extent is this individual able to obtain information?

11. Organizing Skills (OS): To what extent can this individual plan and organize the work of himself and others?

12. Problem Solving (PS): To what extent can this individual easily find the best solution to a problem?

13. Decision Making (DM): To what extent can this individual make decisions of high quality?

14. Written Communications Skills (WC): To what extent can this individual effectively express his ideas in writing?

Figure 5-1

ASD ASSESSMENT CENTER DIMENSIONS

1. Interview (INT): This exercise provides an opportunity for the
    assessor to gather inputs directly from the candidate in a one-
    on-one situation. It addresses such areas as job likes and
    dislikes, career planning, interests, and any other areas the
    candidate wishes to discuss. Prior to the interview, each candidate
    is asked to complete a questionaire which asks for information re-
    garding background, interests, likes and dislikes.

2. City Council (CIC): This simulation "is an assigned role, leader-
    less group discussion. Six participants roleplay City Council
    members, who have been called together to determine the best use
    to be made of a Federal financial grant of $1,000,000 to their city.
    Each 'council member' has information on the needs of one City
    Department. Each participant is to try to get the largest appro-
    priation possible for his department while still helping the group
    swiftly and fairly accomplish its task" (Development Dimensions, 1973).

3. Management Problems (MGP): This simulation is a leaderless group
    discussion with no assigned roles. The six candidates are to act
    as a group of consultants asked to give recommendations concerning
    an organization's problems. The group must come up with a written
    recommendation of a suggested course of action for each of four
    problems. All group members must agree on and initial the recommen-
    dation.

4. Supervisory Task Force (STF): This simulation is a leaderless group
    discussion with no assigned roles. The six candidates are to act
    as a special task force assigned to decide upon the attributes needed
    to successfully perform a first level supervisory job. Each candidate
    is given a period to study the list and rank the attributes (plus any
    they want to add) in their order of importance to a first level sup-
    ervisor. The candidates must then meet together and prepare a
    written report listing the agreed-upon attributes.

5. Research Budget (REB): This is an individual exercise in which the
    candidate is given a short description of a situation demanding an
    immediate decision. The candidate is asked to play the role of a
    newly appointed personnel director who must make an immediate decision
    and present the reasoning behind it. A staff member is assigned to
    play the role of a resource person who will answer any questions the
    candidate wishes to ask.

6. Organizational Problem (ORP): This is an individual exercise in which
    the candidate is asked to play the role of a special task force mem-
    ber. The task force is concerned with improving organizational
    effectiveness. The candidate is told of a number of concerns being
    raised which suggest that the present form of the organization is
    outmoded. The candidates must prepare a written proposal outlining
    their thoughts, ideas, and suggestions in this matter.

Figure 5-2
ASD ASSESSMENT CENTER EXERCISES

TABLE 5-1

DIMENSION-EXERCISE MATRIX

DIMENSIONS	INTERVIEW (INT)	CITY COUNCIL (CIC)	MANAGEMENT PROBLEM (MGP)	SUP. TASK FORCE (STF)	RESEARCH BUDGET (REB)	ORGANIZATIONAL PROBLEM (ORP)
Oral Comm Skills (OC)	X	X			X	
Leadership (LE)		X	X	X		
Energy (EN)		X	X	X		
Forcefulness (FO)	X	X	X	X		
Persuasiveness (PE)		X	X		X	
Flexibility (FL)		X	X	X	X	
Empathy (EM)	X	X	X	X		
Stress Tolerance (ST)		X	X		X	
Risk Taking (RT)	X	X	X		X	
Acquiring Information (AI)	X	X	X		X	
Organizing Skills (OS)		X	X		X	X
Problem Solving (PS)			X	X	X	X
Decision Making (DM)		X	X		X	X
Written Comm Skills (WC)					X	X

Assessor Selection

Three assessors and a chairman were required to assess each group of six candidates. Assessors were selected from second level supervisors or experienced first level supervisors nominated by the organizations serviced by the ASO Civilian Personnel Office. Both military and civilian supervisors were considered for assessor assignments. The following selection criteria were suggested by Dr. Moses:

1. Young (35-40 age group if possible)

2. Ability to get away from office problems

3. Must be perceptive, sensitive and have empathy with persons being evaluated.

4. Must have ability to communicate, especially in writing.

5. Freedom from bigotry

6. Second level supervisor (or higher) of key staff person

7. Should be a person who is respected by peers

It should be noted that the above criteria represented ideal conditions, not all of which were met in every case.

Assessor Training

All assessors attended a one-week training course conducted by Dr. Moses. The training included the following general areas: background on assessment centers; the assessment process; observing and recording behavior; recording dimensions; giving feedback; and familiarization with dimensions and exercises. The film "12 Angry Men" and videotapes of the various exercises were used as training aids.

Trial Run and Evaluation

A trial run of the ASO Center was conducted during January through

72

June 1974. A total of 82 candidates were assessed by 12 assessors during this period. Upon completion of the trial run an evaluation was initiated to determine whether or not to proceed with the assessment program.

As part of the evaluation, the 82 employees who participated in the trial run were surveyed to gather feedback concerning their reaction and recommendations. Overall the reactions were favorable. The results of the survey are summarized in Appendix D.

Another survey was designed to receive feedback from the first 70 managers (second level supervisors of the 82 assessees) who had received at least one written report from the ASD Center. The significant findings (Friedman, 1975) were as follows:

1. A significant percentage of the managers (94%) felt that the information provided by the Assessment Center was very useful to the employee.

2. A majority of the managers (52%) felt that the information was useful to management. An additional 35% felt it was at least somewhat useful to management.

3. A significant number (30) of personnel actions - some favorable and some unfavorable to the employee concerned - were taken based on the Assessment Center information.

4. Only two of the managers who responded did not plan to send other employees through the Assessment Center.

5. A majority of managers (70%) felt that the Assessment Center report provided more creditable data than the supervisory appraisal for merit promotion (Supervisory Evaluation of EmployeePotential for First Level Supervisory Positions, AF Form 2485).

73

6. Five of the managers recommended cancellation of the Assessment Center.

7. A large percentage (46%) of the managers expressed concern for the amount of time required for supervisors to serve as assessors.

Summary

Upon completion of the evaluation, a decision was made to implement the ASO Center as an additional input to the Merit Promotion System. Based on the thorough job analysis, assessment center design, training, trial run, and evaluation, the ASO Management Assessment Center appears to possess content validity.

Empirical Validity

The empirical validity consisted of two parts, internal and predictive. The internal validity is accomplished (1) to determine the reasonableness and consistency with which the information is used to determine the overall assessment and (2) to determine the amount of information that is used. The predictive validity is accomplished to measure the ability of the assessment center techniques to predict managerial success.

Internal Validity

The data used in the internal validity consisted of the three assessor ratings for each dimension observed in an exercise. Within the six exercises, 47 separate dimensions were assessed. At the time of the consensus meeting, a rating for each dimension and an overall

74

assessment center rating was given by each of the three assessors. In
addition, a final consensus rating was also arrived at for each of the
14 dimensions and the overall assessment of potential.

The ratings for the 14 dimensions were done on a zero to five
scale while the overall assessment center rating was given on a one to
four scale. The zero was used only in the 47 separate dimension ratings
and indicated that behavior representing the dimension being evaluated
was not observed. Table 5-2 shows the distribution of the overall
assessment ratings.

TABLE 5-2

DISTRIBUTION OF OVERALL ASSESSMENT RATINGS

		N	%
4	More than acceptable	8	5.6
3	Acceptable	62	43.4
2	Questionable	41	28.7
1	Unacceptable	32	22.4
		143	100.0

The distribution indicates that there was an even distribution of good
and bad ratings within 49% of the candidates being rated acceptable or
higher and 51 percent being rated questionable or lower. The mean
value for the overall assessment rating was 2.32 with a standard
deviation of .89.

Table 5-3 presents the means and the standard deviations of the
47 dimension ratings for the exercises, and the 14 final dimension ratings.

TABLE 5-3

MEANS AND STANDARD DEVIATIONS FOR DIMENSION RATING AND FINAL DIMENSION RATING EXERCISE

DIMENSION	INT	CIC	MGP	STF	REB	ORP	FINAL
OC	3.92 (.84)	3.67 (.98)	2.84 (1.20)		3.76 (.97)		3.76 (.828)
LE		2.72 (1.15)		2.89 (1.21)			2.78 (1.13)
EN		3.35 (1.16)	3.44 (1.13)	3.46 (1.21)			3.45 (1.05)
FO	3.84 (.99)	3.14 (1.13)	3.11 (1.22)	3.08 (1.19)			3.13 (1.00)
PE		2.79 (1.08)	2.78 (1.21)		3.24 (1.12)		2.86 (.92)
FL		3.10 (1.20	2.72 (1.31)	2.97 (1.21)	2.93 (1.18)		2.96 (.90)
EM	3.59 (1.14)		3.20 (1.15)	3.32 (1.04)			3.44 (.81)
ST		3.95 (1.05)	3.80 (1.27)		3.99 (.98)		4.08 (.85)
RT	3.30 (1.10)	2.71 (1.30)	2.70 (1.40)		3.17 (1.20)		3.08 (.86)
AI	2.96 (1.29)	3.17 (1.06)			3.11 (1.16)		3.13 (.94)
OS		3.20 (1.09)	3.05 (1.26)		3.44 (1.04)	3.26 (.967)	3.25 (.86)
PS			3.07 (1.21)	3.11 (1.20)	3.30 (1.07)	2.98 (1.06)	3.17 (.89)
OM		2.99 (1.21)	2.92 (1.32)		3.36 (1.08)	2.99 (1.02)	3.10 (.89)
WC					3.51 (1.06)	3.36 (1.02)	3.35 (.90)

Means/(Standard Deviations)

See Table 5-1 for explanation of dimensions and exercises

Overall, candidates were seen as rating low in leadership, persuasiveness and flexibility. Higher than average ratings were given in oral communications, energy, empathy and stress tolerance.

There are two possible explanations for the low average ratings in leadership, persuasiveness and flexibility. First, since the job of a scientist or engineer may not normally require much need for these dimensions, it seems reasonable that the assessees would rate lower. Secondly, there may be assessor bias in the rating of these dimensions. The center design may make it difficult to rate highly all assessees on these dimensions.

The high average ratings in both oral communications and energy appear consistent with the type of individual comprising the sample population. The high average ratings for both empathy and stress tolerance may be due to inflation by the assessors. For both dimensions, the assessee will rate high unless some negative behavior characteristic of these dimensions is observed during the exercise.

Correlation of Dimensions. Table 5-4 presents the correlations among the 14 final dimension ratings and the overall assessment ratings. With the exception of empathy, written communications and in some cases stress tolerance, the correlations are all above .40. The highest correlations (.77-.88) are among three of the five interpersonal skills; leadership, energy, and forcefulness. This high correlation is seen as indicating the need for energy and forcefulness in order to rise to the position of leadership within the group.

The second highest group correlations (.70-.74) exists among three of the five administrative skills: decision making, problem solving,

77

TABLE 5-4

CORRELATIONS AMONG FINAL DIMENSION RATINGS AND OVERALL ASSESSMENT

(N=144)

Dimensions	OC	LE	EN	FO	PE	FL	EM	ST	RT	AI	OS	PS	DM	WC
OC	-	.56	.53	.56	.57	.47	.18*	.57	.41	.44	.56	.50	.47	.43
LE	.56	-	.80	.77	.69	.64	.22	.42	.56	.50	.69	.55	.60	.29
EN	.53	.80	-	.79	.62	.59	.14*	.34	.49	.42	.53	.41	.45	.31
FO	.56	.77	.79	-	.69	.55	.12*	.44	.57	.41	.53	.49	.50	.25
FE	.57	.69	.62	.69	-	.58	.26	.49	.56	.50	.66	.60	.64	.37
FL	.47	.64	.59	.55	.58	-	.35	.40	.42	.53	.52	.54	.50	.29
EM	.18*	.22	.14*	.12*	.26	.35	-	.22	.24	.22	.07**	.21	.19	.03**
ST	.57	.42	.34	.44	.49	.40	.22	-	.40	.36	.53	.46	.46	.40
RT	.41	.56	.49	.57	.56	.42	.24	.40	-	.53	.55	.55	.61	.26
AI	.44	.50	.42	.41	.50	.53	.22	.36	.53	-	.61	.64	.57	.40
OS	.56	.69	.53	.53	.66	.52	.07**	.53	.55	.61	-	.74	.70	.47
PS	.50	.55	.41	.49	.60	.54	.21	.46	.55	.64	.74	-	.72	.51
DM	.47	.60	.45	.50	.64	.50	.19	.46	.61	.57	.70	.72	-	.44
WC	.43	.29	.31	.25	.37	.29	.03**	.40	.26	.40	.47	.51	.44	-

See Table 5-1 for explanation of dimensions

Significance: $p \leq .01$ except as noted

    * $.01 < p \leq .05$

    ** $p > .05$

76

organizing. This is also an expected result based on the inter-dependence of the three dimensions.

A review of the correlations among the 14 final dimension ratings and the overall assessment rating indicates that persuasiveness (.81), leadership (.77), decision making (.72), problem solving (.72), organizing skills (.71) and forcefulness (.70) had the highest correlations. These results are fairly consistent with the data of the Supervisory Ability Inventory (Appendix C), in which leadership, decision making and organizing skills were listed as being critically important for supervisory success in the target job. Persuasiveness, which had the highest correlation, was listed as somewhat important, and forcefulness was listed as usually important. Written communications (.39) and empathy (.35) had the lowest correlations.

The average correlations of the dimensions observed in the exercise with the final rating for that exercise and also with the over-all assessment rating are presented in table 5 5. These correlations indicate the strength of the relationship of the dimension measured in the exercise with the (1) final rating for that dimension and (2) the overall assessment rating. All dimensions were observed in at least two exercises.

A number of the dimensions, such as leadership, energy, flex-ibility, organizing skills, written communications and oral communications displayed high correlations for all the exercises. This indicates that the assessors consistently see opportunities to observe behavior char-acteristic of these dimensions in all exercises.

TABLE 5-5

CORRELATIONS OF DIMENSION RATINGS FOR EXERCISES WITH

FINAL RATINGS ON SAME DIMENSIONS AND WITH OVERALL ASSESSMENT (N=144)

Dimension	INT	CIC	MGP	STF	REB	ORP
OC	.61 (.41)	.66 (.49)			.67 (.53)	
LE		.78 (.64)	.77 (.70)	.75 (.59)		
EN		.75 (.54)	.75 (.58)	.76 (.54)		
FO	.62 (.43)	.74 (.56)	.76 (.60)	.76 (.59)		
PE		.65 (.55)	.72 (.63)		.60 (.55)	
FL		.63 (.43)	.59 (.55)	.60 (.46)	.58 (.40)	
EM	.57 (.29)		.60 (.26)	.46 (.30)		
ST		.57 (.25)	.42 (.29)		.63 (.33)	
RI	.40 (.38)	.54 (.36)	.41 (.38)		.44 (.20)*	
AI	.38 (.33)	.46 (.50)			.78 (.37)	
OS		.59 (.59)	.63 (.57)		.67 (.47)	.57 (.44)
PS			.59 (.59)	.56 (.58)	.66 (.51)	.62 (.44)
DM		.57 (.54)	.47 (.52)		.65 (.50)	.65 (.46)
WC					.68 (.31)	.69 (.29)

Final Ratings/(Overall Assessment Rating)

Significance: p ≤ .01 except as noted

* .01 < p ≤ .05

See Table 5-1 for explanation of dimensions and exercises

Acquiring information had a wide range (.38-.78) in correlations.
The correlation was highest for the Research Budget and lowest for the
Interview. These results indicate that the assessors consistently saw
less opportunity to observe behavior characteristic of that dimension
in the Interview than in the Research Budget. These results may be
reasonable since the Research Budget was designed to provide the assessee
with the opportunity to gather information while the interview was a
general information input from the assessee to the assessor.

The range for the correlations between the dimension ratings for
each exercise and the overall assessment rating was .20 to .70. Four of
the dimensions, empathy, stress tolerance, risk taking and written
communications had rather low correlations. Norton, Dunne, and Thornton
(1979:17) point out that this low correlation would arise if "either
the candidates' performance on that dimension for that simulation was
highly divergent from their overall performance or that the assessors
were ignoring that particular dimension for that exercise." The
correlations for these three dimensions were low for all the exercises
indicating that probably the assessors were ignoring that dimension in
determining the overall rating.

Inter-rater reliability. As a measure of reliability, inter-
rater reliabilities for the 47 dimension ratings for the exercises and
for the 14 final dimension ratings were determined (Table 5-6). As
stated in Chapter II, these reliabilities were computed by first
averaging the correlations of the three assessors for each of the 24
times the assessment center was conducted. Only centers with data
available for all six assessees and which had computable correlation

81

TABLE 5-6

INTER-RATER RELIABILITIES OF DIMENSION RATINGS FOR EXERCISES

AND FOR FINAL DIMENSION RATINGS

Dimension	INT	CIC	MGP	STF	REB	GRP	MEAN	FINAL
OC	.62 (.83)	.69 (.87)			.69 (.87)		.67 (.86)	.77 (.91)
LE		.82 (.93)	.85 (.94)	.83 (.94)			.83 (.94)	.85 (.94)
EN		.81 (.93)	.81 (.93)	.88 (.96)			.83 (.94)	.84 (.94)
FO	.73 (.92)	.81 (.93)	.84 (.94)	.79 (.92)			.79 (.92)	.84 (.94)
PE		.72 (.89)	.82 (.93)		.79 (.92)		.77 (.91)	.82 (.93)
FL		.74 (.90)	.79 (.92)	.72 (.89)	.65 (.85)		.73 (.89)	.77 (.91)
EM	.70 (.88)		.67 (.86)	.58 (.81)			.65 (.85)	.77 (.91)
ST		.60 (.82)	.55 (.79)		.57 (.80)		.57 (.80)	.72 (.89)
RT	.58 (.81)	.71 (.88)	.71 (.88)		.59 (.81)		.65 (.85)	.73 (.89)
AI	.72 (.89)	.68 (.86)			.79 (.92)		.73 (.89)	.82 (.93)
OS		.72 (.89)	.84 (.94)		.72 (.89)	.56 (.79)	.71 (.88)	.78 (.91)
PS			.71 (.88)	.79 (.92)	.73 (.89)	.57 (.80)	.70 (.88)	.80 (.92)
OM		.76 (.90)	.74 (.90)		.66 (.85)	.49 (.74)	.66 (.85)	.73 (.89)
WC					.77 (.91)	.52 (.76)	.65 (.85)	.74 (.90)
Mean	.67 (.86)	.73 (.89)	.76 (.90)	.77 (.91)	.69 (.87)	.53 (.77)		

Average r/(Spearman-Brown)

See Table 5-1 for explanation of dimensions

82

coefficients were used. The average correlations of the 24 groups were then averaged to provide an overall average for the 47 dimension ratings for the exercises. The Spearman-Brown formula was then applied to these averages to provide the reliability measure.

The inter-rater reliabilities ranged from .74 to .94 for the 47 dimension ratings for the exercise. The lowest reliability for a dimension within an exercise was decision making in the Organizational Problem. Since decision making had high reliabilities for the other exercises, this low correlation was seen as a problem with the exercise not the dimension. The highest reliability was for energy in the Supervisory Task Force exercise.

Table 3-5 also shows the mean reliabilities for each exercise and for each dimension. The dimension means range from .80 for stress tolerance to .94 for both leadership and energy. The lowest reliability for a final dimension is also for stress tolerance. This result was expected based on a review of assessor evaluation worksheets which indicated some confusion in the rating of this dimension. The highest reliability for a final dimension was leadership. The reliabilities for all the final dimension ratings are consistently higher than the mean rating for the dimensions. This is expected since differences of more than one in final ratings were resolved during the consensus meeting.

A review of the mean reliabilities for the exercise shows a range of from .77 for the Organizational Problem to .91 for the Supervisory Task Force. The mean reliability of the Organizational

83

Problem exercise was considerably lower than the other exercises indicating some difficulty may exist in the measurement of dimensions within that exercise.

Factor Analysis. A factor analysis of the 14 dimensions was accomplished to identify underlying factors. An analysis of the entire population (N=44) indicates the existence of three factors with eigenvalues of 7.37, 1.23, and 1.07 (Table 5-7). Factor I was comprised of the five interpersonal skills - leadership, energy, forcefulness, persuasiveness and flexibility. The second factor consisted primarily of skills, problem solving, and decision making and written communications. Stress tolerance contributed to a lesser degree. Both oral communications and risk taking contributed to both Factor I and Factor II. Finally, empathy determined Factor III. These results are generally consistent with previous studies (Norton, Dunne and Thornton, 1979 and Sackett and Hakel, 1979).

In the study by Norton, Dunne and Thornton, two factors emerged. The strongest factor consisted of Problem Analysis, Judgment, Planning and Organizing, and Written Communications. This result compares well with the FACTOR II dimensions of the present study. The factor analysis done by Sackett and Hakel resulted in three factors, the first two of which were common among assessors. The first factor consisted of Organizing and Planning, Decision Making and Decisiveness. The second factor consisted of Leadership and Behavior Flexibility. These results are comparable to FACTOR II and Factor I respectively.

84

TABLE 5-7

FACTOR ANALYSIS RESULTS: LOADING AFTER VARIMAX ROTATION

Dimension	Factor I	Factor II	Factor III
OC	.517	.514	.052
LE	.840	.335	.127
EN	.893	.189	.014
FO	.887	.235	.022
PE	.657	.482	.197
FL	.584	.354	.403
EM	.068	.062	.945
ST	.291	.582	.170
RT	.492	.468	.256
AI	.287	.666	.251
OS	.463	.743	.007
PS	.301	.798	.173
DM	.375	.722	.165
WC	.052	.766	.154

Variance explained by the three factors: 69.1%

See Table 5-1 for explanation of dimensions.

Since a specific part of the center design was a Feedback Report which was used by assessors to provide feedback to the assessee in four areas, a factor analysis was accomplished forcing in a fourth factor. (Table 5-8). The results show that Factor I is determined by the interpersonal skills, Factor II by the administrative skills, Factor III by the communicative skills and stress tolerance, and Factor IV by empathy. With the exception of stress tolerance, these four factors are identical to the four areas on the Feedback Reports.

In an attempt to determine the extent to which assessors differentiate among the dimensions, a separate factor analysis was accomplished for each of the 24 times the center was run. These 24 runs represented a different set of three assessors for a set of six assessees. Of these 24, one was excluded in the analysis since both forcefulness and persuasiveness resulted in zero factor coefficients.

For the remaining runs the number of factors ranged from 2 to 4. There were three cases in which two factors were indicated; ten cases in which three factors ere indicated; and ten cases in which four factors were indicated. These results suggest that differences do exist in the nature of the underlying factor structure for the different assessor teams. Some of the more consistent findings were (1) Leadership and energy were strong determinants of one of the factors in 20 of the 23 runs, (2) empathy strongly determined a factor in seven of the runs, an d (3) organizing skills and problem solving load as one factor in 13 of the runs.

Multiple Regression Analysis. A ten step regression analysis was accomplished using the 14 final dimension ratings to predict the overall

TABLE 5-8

FACTOR ANALYSIS RESULTS: LOADING AFTER VARIMAX ROTATION (4 FACTORS)

Dimension	Factor I	Factor II	Factor III	Factor IV
OC	.495	.186	.658	.102
LE	.805	.397	.156	.088
EN	.876	.208	.158	.007
FO	.866	.244	.185	.001
PE	.615	.450	.309	.166
FL	.549	.388	.193	.373
EM	.061	.115	.055	.952
ST	.268	.188	.747	.231
RT	.434	.638	.037	.160
AI	.215	.756	.177	.149
OS	.396	.688	.383	.076
PS	.255	.785	.345	.084
OM	.302	.766	.256	.070
WC	.066	.402	.710	.144

Variance explained by the four factors: 75.1%

See Table 5-1 for explanation of dimensions

87

assessment center rating (Table 5-9). This procedure was done to model the amount of information that could be used in making the overall assessment rating.

As in previous studies (Norton, Dunne, and Thornton, 1979; and Sackett and Hakel, 1979), a smaller subset of the total number of dimensions yielded a high R^2, indicating that the overall rating can be modeled quite accurately using a portion of the total number of dimensions measured. In the study by Norton, Dunne and Thornton, four dimensions (Planning and Organizing, Problem Analysis, Oral Communications and Task Responsibility) accounted for 82.2 percent of the variation of the overall rating.

In the study by Sackett and Hakel, three predictors yielded R^2's ranging from .83 to .86 for the different assessor teams participating in the center. In no case did equations with up to seven predictors exceed the R^2 for three predictors by more than .05. The three strongest predictors in their study were Leadership, Planning and Organizing, and Decision Making.

TABLE 5-9

MULTIPLE REGRESSION OF FINAL DIMENSION RATINGS ON OVERALL ASSESSMENT

Variable	R^2	R^2 Increase	Results of 5-step solution		
			B weight	F	Sig of F
PE	.662	--	.341	41.93	.000
LS	.745	.083	.234	31.23	.000
CM	.798	.053	.250	27.84	.000
EM	.814	.016	.135	10.68	.001
RT	.823	.009	.131	7.27	.008
Constant			-.955		

The regression for the entire population (N=144) for the ASD

Center resulted in Persuasiveness, Leadership, Decision Making, Empathy

and Risk Taking accounting for 82.3 percent of the variation of the over-

all rating. While Persuasiveness, Leadership, Decision Making and Risk

Taking had high correlations with the overall rating (Table 5-4),

empathy had the lowest.

Predictive Validity

The predictive validity consisted of a computation of the

correlation coefficients of the 14 final dimension ratings and the over-

all assessment center rating with four variables chosen to be indicators

of managerial success.

The four variables used as actual criteria of success were

present grade (GRADE), present salary (SALARY), most recent merit

appraisal rating (APP), and the number of promotions (PROMOTE) since

the assessment center. A literature review accomplished by Klimoski

and Strickland (1977:380) identified these as criteria used in previous

studies. There is by no means strong support for their exclusive use.

They were used in this study because of availability and as a means

to compare the predictive validity of the ASD Center with previous

studies. Two possible criteria to be further investigated are differences

in salary and the results of a personal interview with the assessee's

immediate supervisor on present job performance.

The number of promotions for the 143 candidates ranged from

zero to two. Only 4.2 percent had two, 32.9 percent had one and 62.9

percent had zero promotions since the assessment center. Present grade

ranged from GS-11 to GS-15 with GS-13 and GS-14 comprising almost 92 per-

cent of the candidates. Salary for the candidates was dependent on

both GS rating and step within the GS rating. The range was from

$22,671 to $45,126 with a mean of $36,874. There were 30 steps in

the salary range with the most frequent occurring in 20.3 percent of the

cases. The range for the most recent merit appraisal rating was from

40 to 70 with a mean of 65 and a standard deviation of 5.4. Over 64

percent of the 110 candidates having available merit appraisal ratings

has a rating of 66 or higher, indicating some inflation in the appraisal

system.

The correlations of the overall assessment center rating and the

four criterion variables ranged from .15 for salary to .28 for the most

recent merit appraisal rating (Table 5-10). The number of promotions

displayed the second highest correlation (.27), just slightly lower than

that for the appraisal rating.

The predictive validity for the appraisal rating compares well

with the .30 correlation of the study by Norton, Dunne and Thornton

(1979). The predictive validity for the number of promotions was some-

what lower than the .44 obtained in the AT&T studies (Howard, 1974L 122).

One factor to consider with the low correlation for salary is the irregular-

ities in the pay scales. For instance, it is not uncommon for a junior

GS-14 to have a lower salary than a senior GS-13.

The correlations of the 14 final dimension ratings and the over-

all assessment center are also shown in Table 5-10. Excluding salary,

the correlations across the three other criteria variables are fairly

consistent. Oral communications, leadership and written communications

90

TABLE 5-10

CORRELATIONS OF FINAL DIMENSION AND OVERALL ASSESSMENT RATINGS
WITH INDICATORS OF MANAGERIAL SUCCESS (N=143 except as noted)

Dimensions	Promotions	Salary	APP***	Grade	Mean
OC	.18*	.26	.31	.32	.27
LE	.25	.18*	.22	.25	.23
EN	.23	.09**	.19*	.18*	.17
FO	.27	.13**	.20*	.22	.21
PE	.23	.09**	.20*	.22	.19
FL	.19*	-.01**	.11**	.12**	.10
EM	.00**	-.10**	.07**	-.03**	-.02
ST	.20	.15*	.27	.24	.22
RT	.20	.02**	.28	.14*	.16
AI	.19*	.07**	.11**	.16*	.13
GS	.17*	.15*	.22	.22	.19
PS	.25	.11**	.24	.23	.21
DM	.29	.09**	.24	.21	.21
WC	.19*	.18*	.29	.25	.23
Mean	.20	.10**	.21	.20	
Overall Assessment	.27	.15*	.28	.24	

*** N = 110

Significance: $p \leq .01$ except as noted

* $.01 < p \leq .05$

** $p > .05$

See Table 5-1 for explanation of dimensions

91

have the highest mean correlation with the four criteria variables. Empath has by far the lowest.

Conclusions

In general, the results of the empirical validity show that the assessment center provides a useful measure of the dimensions evaluated. Some specific conclusions follow:

1. Acquiring information should be excluded from the interview. The correlation of this dimension with the final dimension rating indicates that very little weight was given to this dimension by the assessors in that exercise.

2. The organizational problem exercise needs to be examined for possible problems in the measurement of dimensions within that exercise. Inter-rater reliabilities for all four dimensions within that exercise were considerably lower than for any other exercise.

3. Definition problems exist for the stress tolerance dimension. This was indicated first by the low inter-rater reliability and second by reviewing the assessor worksheets. In some cases, the same assessee was given both a zero and a five rating by different assessors because no stress was observed.

4. Evidence indicates that empathy is a dimension independent of all others and has little bearing on performance within the assessment center. It displays little correlation with any of the other 13 dimensions, has the lowest correlation with the overall assessment rating and consistently loads as a separate underlying factor. This dimension was not

92

originally identified on the Supervisory Abilities Inventory,
but was added based on additional comments provided by
supervisors completing the inventory. It is felt that
empathy can be eliminated from the dimensions evaluated.

Summary

Although the assessment center design appears to have content
validity, the empirical analyses indicates the existence of some pro-
blems in the usefulness of specific exercises and the measurement and
usefulness of certain dimensions. Internal validity and the predictive
validity of the appraisal rating are consistent with the results found
in previous studies.

The following chapter provides the background for conducting
a pilot assessment center for management development of Air Force
officers. A training approach is described which is aimed at addressing
some of the problem areas mentioned above.

CHAPTER VI

PILOT ASSESSMENT CENTER

Introduction

One of the objectives of this research effort is to provide a
basis for a pilot assessment center to further investiga e the assess-
ment center as a means for management development of Air force officers.
In Chapter III, the management development portions of officer develop-
ment programs were reviewed. This review indicated a need for a more
effective way of providing feedback to officers concerning their manage-
ment skills. Criteria common to the management development programs
were also listed. These criteria included oral communication skills,
written communication skills, problem solving, leadership, decision
making, and resource management.

Of the above mentioned developmental criteria, all except
resource management were included as dimensions in the ASD Management
Assessment Center. In addition, the ASD center included the following
nine dimensions: energy, forcefulness, persuasiveness, flexibility,
empathy, stress tolerance, risk taking, acquiring information, and
organizing skills. The dimensions used in the ASD Center were the
result of an indepth job analysis of first level supervisory jobs in
the scientific and engineering field.

''though civilian personnel were the subjects of the job analysis,
it is assumed that the same dimensions would apply to military officers
in similar jobs. This assumption is thought to be valid since the jobs

94

performed by military scientists and engineers at Wright-Patterson AFB
are essentially identical to the jobs performed by their civilian
counterparts. Because of the similarity between military and civilian
jobs, plus the similarity between developmental criteria and the ASO
Center dimensions, the ASO Center was examined for future use as a
management development tool for Air Force officers.

The data presented in Chapter V provide general support for the
content and empirical validity of the ASO Center. Some of the diffi-
culties with certain exercises and dimensions identified in that chapter
may be addressed by improvements in assessor training. Although addi-
tional changes to the assessment center design itself may be desirable,
it is recommended that the same design be used in the pilot center so
that results may be compared to results of the 1974-1975 ASO Center.
This chapter provides the basis for updating the assessor training,
providing the required assessor feedback, and gathering the information
necessary to examine the ASO Center's effectiveness as a management
development method.

Assessor Training

As was pointed out in Chapter IV, assessors are normally pro-
fessional managers two or three levels above the candidates. While they
may have an extensive background in the management field, they must also
receive adequate training to enable them to accurately understand and
evaluate the dimensions measured in the assessment center. Standards
and ethical considerations for assessment center operations, Appendix A,
presents the minimum training requirements and a brief description of

what should be included. Table 6-1 presents a suggested schedule for assessor training.

TABLE 6-1

ASSESSOR TRAINING

Day One	Introduction to Assessment Center Overview of the Assessment Process Observing and Recording Candidate Behavior
Day Two	Review of Assessment Dimensions Review of Exer ses
Day Three	Evaluation of Candidate Behavior Review of Benchmarks Team Assessment
Day Four	Practice Assessment Center
Day Five	Writing Final Reports Feedback Training Assessment Center Administration

Since measurement of the dimensions is a prime consideration, a thorough understanding of the basic dimension definitions and the relevant behavior associated with each dimension should be stressed. During the assessor training this is accomplished first by acquiring an understanding of the dimension definitions, their relationship to other dimensions, and examples of effective and ineffective performance. This understanding is further reinforced during the review of the specially developed benchmarks which represent the typical behavior expected for a specific dimension rating. Finally, the operation of the practice assessment center and the writing of final reports should be used to resolve any remaining confusion.

In the ASD Center, brief dimension definitions were printed on the exercise report forms used by the assessors. Both a review of these reports and the results of the internal validation indicate that the different assessors viewed some dimensions differently. To increase assessor understanding relative to the dimensions, expanded dimension definitions and benchmarks have been developed for use in the assessor training (Fig. 6-1 to 6-16).

The expanded definitions and benchmarks are based on ˗ review of the assessor reports and worksheets of over 20 assessees. The review was accomplished to determine consistent observation points across different assessors for the same dimensions. In some cases, the definitions were actually reworded, however, in all cases, additional points to consider in assessing a dimension were included. In the ASD Center, dimensions were rated on a scale of one to five. A rating of one indicated very little of a dimension was shown. A rating of five represented excellent behavior for a given dimension. Benchmarks were developed for dimension ratings of two, three, and four.

Assessor Feedback

No matter how valid the assessment center approach, it will have little value as a management development tool if the feedback to the assessee is ineffective. In an assessment center used for management development, the primary objectives of feedback are learning and motivation. Salter and Olmstead (1974:35) state that feedback should result in the assessee's (1) learning the precise nature of any undesireable behavior produced or of desired behavior not produced, (2) learning ways of correcting deficiencies, and (3) acquiring motivation to improve.

97

Oral Communication Skills: How effective is this individual in expressing ideas orally? Is presentation logical and well-organized? Look to the audience for cues. What is their reaction?

Additional points to consider:

> Volume and projection
> Voice clarity and articulation
> Voice tone - pleasant and enthusiastic or monotone?
> Eye contact, gestures, and facial expressions
> Use of notes
> Distracting habits
> Organization

Note: Vocabulary and formal correctness are not critical unless they distract from the message being communicated.

Benchmark Two

Largely ineffective in both group and one-on-one situations. Low monotone voice which is barely audible at times. Looked down too much when referring to notes and had a tendency to read from them. Questioning during Research Budget was rambling with no main points. Reluctant to enter discussion during City Council.

Benchmark Three

Effective speaker in both group and one-on-one situation. Spoke clearly with good volume and adequate variations in voice inflections. During the City Council used a number of pauses and "ok's" which detract from overall presentation. Used good hand gestures and eye contact was good during Interview and Research Budget, but only fair during City Council.

Benchmark Four

Very effective speaker. Voice is clear, projects well and pleasant to listen to. Good vocabulary. Always maintains good eye contact and makes good use of notes. Questioning in Research Budget was concise, clear, and to the point. The only deficiency noted was formal presentation in City Council could have been better organized. Could excell with practic and polish.

Figure 6-1

DEFINITION AND BENCHMARKS: ORAL COMMUNICATION SKILLS

Leadership: To what extent is this individual able to get others to work together as a group in accomplishing a task?

Additional points to consider:

> Attempts to lead. It is better to attempt to lead and
> fail than to never even attempt to lead.
> Effectiveness in coping with dissension and bringing
> about compromises.
> Appropriateness of leadership style
> Success in gaining group support.

Note: Remember that in an assessment center it is possible for all candidates to receive the same rating. All candidates may be rated low or all candidates may be rated high. See figure 6-15 for relationship between Leadership, Persuasiveness, Forcefulness, and Energy.

Benchmark Two

Made few attempts to lead. These few attempts at leadership were ineffective. In the City Council was more interested in own proposal. Eager to get discussion started but did not sustain. No evidence of desire to lead in other group exercises. Outwardly passive and content to follow others.

Benchmark Three

Effective in a limited number of attempts to lead. Assumed leadership role in the Supervisory Task Force and lead the group to a consensus decision. Did not dominate the Management Problems Exercise but did impact group at times by summarizing. Was willing to let others take the lead in City Council, but assisted in negotiating the final compromise.

Benchmark Four

Demonstrated definite qualities of leadership. Although not completely dominating the group, constantly channeled the group discussion and initiated its decisions. Made a strong bid for leadership of the Supervisory Task Force by stepping to the chalkboard and writing down own list - was able to maintain control. Contributed strongly to final recommendations on the Management Problems by asking pertinent questions and restating others' positions. During the City Council discussion was listened to attentively by the group and received support most of the time.

Figure 6-2

DEFINITION AND BENCHMARKS: LEADERSHIP

Energy: To what extent does this individual maintain a high level of activity? How much does this individual participate in exercises?

Additional points to consider:

      Verbal inputs
      Note-taking
      Use of chalkboard
      Remember to lock for level of activity. Do not be concerned
       with the impact of the activity on the group.

Note: See Figure 6-15 for relationship between Leadership, Persua-siveness, Forcefulness, and Energy.

Benchmark Two

     Very low level of energy. Almost a non-participant. After initial presentation participated very little in City Council Exercise, responding only when questioned. In other exercises, participated very little, making only sporadic comments.

Benchmark Three

     Shows greatest level during planning and organizing phases. Great discussion starter but fades rapidly. Took many notes during City Council. Paricipated in a lively fashion during early discussion period but did not sustain. In the Management Problems Exercise, worked at a steady, but not vigorous pace during the planning period. Participated in the discussion but never very actively. In the Supervisory Task Force summarized occasionally and volunteered to write final decision.

Benchmark Four

     Displayed a great deal of energy. Entered the discussion almost immediately and participated almost constantly thereafter. Interested and enthusiastic throughout discussion. Was quick to volunteer to help write up the recommendation to the Management Problems. Set the pace for the City Council Exercises, making frequent inputs and asking questions. Worked at chalkboard to keep track of rankings on Super-visory Task Force and maintained a steady input of iueas.

Figure 6-3

DEFINITION AND BENCHMARKS: ENERGY

Forcefulness: To what extent is this individual able to command attention from others? Is this individual's presence felt by others? Is there any attempt to actively seek attention rather than passively react to events as they occur?

Additional points to consider:

Aggressiveness
Audience attention and reaction
Self-confidence
Display of initiative

Note: The difference between leadership and forcefulness is that while an individual may be forceful, i.e., able to command attention, this individual may not be effective in leading others to accomplish a task. Also, forcefulness is concerned with the effect of an individual's activity, while energy is concerned only with the amount of activity. The relationship between leadership, persuasiveness, forcefulness and energy is shown in Figure 6-15.

Benchmark Two

Quiet and reserved. Commands attention on only a short-term basis. Manner of speaking is generally low-keyed. During City Council was quite willing to change positions to accomodate challenges. Most of inputs were ignored by others in the Supervisory Task Force. Some-what passive during the discussion of the Management Problems - willing to "go with the flow." Seemed unsure of self during the interview.

Benchmark Three

Able to hold attention of others but tends to hold back. Came on strong in the Interview, but not as aggressive in group discussions. City Council presentation was forceful and listened to by the others. Aggressive in support of his department, but a bit reluctant to inter-ject self too strongly into the discussion. During discussion of Manage-ment Problems and on the Supervisory Task Force, others reacted favorably to the few inputs made by #3.

Benchmark Four

Displayed considerable forcefulness throughout the discussions stating positions and posing questions and alternatives in a knowledgeable and confident manner. When this individual made comments on the Manage-ment Problems, others listened attentively and showed respect, since many of the comments were accepted. Was very effective in focusing the group's attention on their department in the City Council. Was the cen-ter of attention in the Supervisory Task Force. Very aggressive in the interview.

Figure 6-4

DEFINITION AND BENCHMARKS: FORCEFULNESS

101

Persuasiveness: To what extent is this individual able to sell his/her
point of view and counter objr-tions from others?

Additional points to consider:

        Attempts to sell ideas. The fact that a person trys is worth
         more than if they did not even try.
        Success in selling ideas
        Was this individual convincing?

Note: The difference between Leadership and Persuasiveness is that an
individual may be able to sell ideas to others, but ineffective in
bringing others together to accomplish the whole task. See Figure
6-15 for the relationship between Leadership, Persuasiveness, Force-
fulness and Energy.

Benchmark Two

        Few attempts to sell ideas were largely ineffective. Not very
convincing in City Council - other group members persuaded #2 more than
#2 persuaded them. Was difficult to follow ideas presented on Manage-
ment Problems - did not make specific points. Not at all persistent
in asking questions on Research Budget.

Benchmark Three

        Makes points well in some situations. More convincing in
initial City Council Presentations but later attempts to support own
department were moderately successful. Arguments and ideas were
generally good concerning the Management Problems and many were
accepted. However, the force of arguments were carried by others.
Swayed the group away from preselection of trainees on Problem #1.
Was moderately successful at selling initial decision on Research
Budget. When new data was presented, was not persuasive in attempting
to use new data to support decision.

Benchmark Four

        Showed considerable skill in persuading others - both in getting
ideas accepted and changing their positions. Convinced the group to
accept a set of criteria which was then used to support own department
in City Council Exercise. Used minimum data supported by logical
arguments to sell decision on Research Budget. Very persuasive in
countering assessor's arguments relatively quickly.

Figure 6-5

DEFINITION AND BENCHMARKS: PERSUASIVENESS

<u>Flexibility</u>: To what extent can this individual adjust to new situations easily?

Additional points to consider:

      Reaction to new information
      Variation in behavior and style with different people
      Willingness to compromise
      Variation in tactics
      Acceptance of other's ideas
      Ability to change roles (e.g., from leader to follower)

Benchmark Two

Rarely altered method or style in spite of often being alone or in the minority on issues. Insisted on gettin entire grant for own department in City Council even though others presented good arguments. In Research Budget, stuck with pre-planned questions, even with new facts.

Benchmark Three

Somewhat receptive to new ideas. Style is relaxed and easy-going and changes very little. In Research Budget, strayed very little from pre-planned questions, but shifted position based on later arguments from assessor. As a City Council member was willing to listen to others' proposals, and was willing to compromise with only slight reluctance. In discussion the Management Problems, went along with the majority most of the times

Benchmark Four

Shows a lot of ability to adapt to new situations and new information. In the Research Budget, was quick to pick up leads and follow them through - even though this varied from planned approach. Demonstrated flexibility in examining others' City Council proposals and in proposing alternative solutions and projects - seemed to always have a back-up plan. Came on very strong at first on Supervisory Task Force. When rejected by the group, toned down approach and made several inputs which were accepted by the group.

Figure 6-6

DEFINITION AND BENCHMARKS: FLEXIBILITY

Empathy: To what extent does this individual show concern for others?

Additional points to consider:

       Sensitivity or awareness of others' feelings
       Respect while others are speaking
       Do others feel comfortable around this individual?

Benchmark Two

Though not abrasive, displays very little tolerance for those who were poor performers. Extends normal courtesy to others. Very little concern for others surfaced in any of the exercises.

Benchmark Three

Attentive to others remarks. Feels job can get accomplished without being unduly harsh on anyone. In Management Problem preferred to compromise rather than alienate anyone. Displays an awareness of the importance of people issues. During Interview expressed an interest in working with people and a concern for both family and friends as well as the job. In the Supervisory Task Force was not completely diplomatic. At times exhibited some impatience with others.

Benchmark Four

Exhibits a genuine concern for others. Listens attentively to others without interrupting. Displays above average sensitivity. Likes working with and assisting others. During Management Problems expressed concern for employee morale. In the Supervisory Task Force introduced the idea of human relations, was willing to change to accomodate feelings of others. Solicited comments from all group members.

Figure 6-7

DEFINITION AND BENCHMARKS: EMPATHY

Stress Tolerance: To what extent does this individual exhibit
stability of performance under pressure, opposition, or other
difficult conditions.

Additional points to consider:

>   Poise
>   Display of nervousness or irritation
>   Change in speech or behavior

Note: Stress is inherent in an assessment center environment. "The
stress in an assessment center comes from the other candidates and
from the quantity and nature of the material" (Norton, and Edinger,
1978:13). If an individual "can survive the exercise as presented
without indicating stress, he should ge a good rating on stress
tolerance" (Moses, 1974).

Benchmark Two

Performance is degraded under stress or conflict. Outward
display of nervousness - tapping pencil, biting fingernails, strained
voice, etc. Especially nervous in group exercises. Stress was
apparent in speech during City Council formal presentation. Always
looked down, never at group during discussion on Management Problem.
Became frustrated and face was flushed when new data was introduced
in Research Budget

Benchmark Three

Outward appearance of calmness. Performance is not degraded
seriously although stress is obviously felt. In City Council, remained
calm even though own proposal was not receiving much attention -
slight tendency to withdraw. Relaxed and active participant in solving
Management Problems until time pressure was felt. Expressed frustration
by making negative comments to others. Did not appear to be bothered
by stress during Research Budget, even when challenged by the assessor.
At times, voice shows a little strain, but not too apparent.

Benchmark Four

Went into all exercises with relaxed attitude and maintained
composure throughout. No outward signs of stress. In Research Budget
was completely poised in both the questioning and presentation period,
reacting quickly and calmly to questions and comments. The only stress
shown was when told of missing a piece of data - showed some irritation
but recovered quickly. Not disturbed by conflict during City Council.
Instead, worked hard in seeking compromises. No signs of stress in
discussion of Management Problems - always spoke in calm, clear voice.

Figure 6-8

DEFINITION AND BENCHMARKS: STRESS TOLERANCE

Risk Taking: To what extent is this individual willing to risk
negative consequences in order to achieve objectives?

Additional Points to consider:

Willingness to state a position or take a stand
Willingness to make a decision based on limited information
Willingness to take an unpopular position
Willingness to assume responsibility

Benchmark Two

Very cautious about expressing an opinion. Usually does not
take a very firm stand. Does not get deeply involved. Is not willing
to take a risk to achieve objectives. During interview indicated
dislike for ambiguous work situations. During Management Problems
lack of participation indicated reluctance to risk criticism of others.

Benchmark Three

Willing to disagree with others and to take an unpopular position
group exercises. Did not indicate desire to take on added respon-
sibilities. In Management Problems often made comments and disagreed
with others. During City Council made a fairly safe decision to com-
promise.

Benchmark Four

In all exercises was willing to take either the risk or the
responsibility to get the job done. Quick to take action, wants to
get things done, not reluctant to make decisions and justify it.
During the Interview indicated desire to do innovative things. In
Research Budget was willing to make decision with minimum amount of
data.

Figure 6-9

DEFINITION AND BENCHMARKS: RISK TAKING

Acquiring Information: To what extent is this indi٧   ٦l able to
obtain information?

Additional Points to consider:

> Number of questions asked.
> How aggressive is questioning?
> Is questioning adjusted to data received in answers
> to previous questions?
> How much information is obtained?
> Follow-through on questions.
> Ability to determine what information is needed.

Note: See Figure 6-16 for relationship between Decision Making, Problem
Solving, and Acquiring Information.

Benchmark Two

Information gathering is shallow in depth and general in nature.
Only responded to questions asked by assessor in Interview. Although
given the opportunity, sought no information from the assessor. During
Research Budget stuck strictly to original set of questions and obtained
only minimal data. In City Council Exercise, asked very few questions
of others.

Benchmark Three

Fairly good at obtaining information, however, does nr' ٦٦p٥ ٦r
to recognize its significance for follow-up questions. Used plan٦
period in Research Budget to organize a logical set of questions.
Revised leads uncovered during questioning but frequently got ٦.٥٥-
tracked. Asked pertinent questions of other City Council members to
obtain information used to support own proposal. When a weak point
was found, #3 followed it up. During the Interview asked very few
questions, but wanted to review the background questionnaire to make
sure nothing was missed.

Benchmark Four

Well-planned approach to obtaining a large amount of information
in a limited amount of time. In the Research Budget has a rapid-fire
questioning technique and pursued all leads and clues to a conclusion.
In the city council discu٦ ion, asked many questions and refused to
accept half answers but aggressively sought pertinent facts. Also
picked out pertinent facts in problem statement. Asked several questions
about the assessment center process and use of results during the inter-
view.

Figure 6-10

DEFINITION AND BENCHMARKS: ACQUIRING INFORMATION

Organizing Skills: To what extent does this individual plan and organize his/her own activities and those of others?

Additional points to consider:

Are oral and written reports logical and understandable?
Efficient use of time?
Does the individual set goals and work toward them?
Are activities structured?
Are priorities assigned to different activities?

Benchmark Two

Demonstrated an average ability to organize own work, but ineffective in organizing group activities. Oral presentation during City Council reflected no strategy. In Research Budget, available facts were not used to support arguments. Organizational Problem input was not well organized, consisting mainly of random thoughts.

Benchmark Three

Moderately well organized in group exercises. In City Council made several attempts at organizing the group. Suggested spokesman be selected and criteria for judging proposals be established. In Management Problems suggested time limit be set for each problem and priorities be established. Research Budget report was organized into sections.

Benchmark Four

Well organized in both individual and group exercises. Showed ability to organize thoughts and formulate ideas throughout discussion in examining and questioning others proposals in City Council. Oral presentation was logical, pertinent and organized to achieve objectives. In the Research Budget, questions were logical and comprehensive. List of answers were complete and reports well organized to present findings. Used a good outline in the Organizational Problem to organize approach.

Figure 6-11

DEFINITION AND BENCHMARKS: ORGANIZING SKILLS

Problem Solving: To what extent can this individual identify problems
and find solutions?

Additional points to consider:

> Ability to sift out significant information or important
> facets of a problem and disregard non-essentials.
> Ability to size up a situation quickly, including the
> people involved.
> Are alternative solutions identified and examined?
> Amount of participation in group problem solving situations.

Note: See Figure 6-1C for relationship between Decision Making,
Problem Solving and Acquiring Information.

Benchmark Two

Has difficulty in grasping problems and understanding significance
of data. Tends to support other approaches rather than seek a new sol-
ution. Shows little participation and little effect on solving a group
problem. In the Management Problems displayed some understanding of
problem but was never able to arrive at solution. During Research
Budget did not grasp problem or understand significance of data. In
Supervisory Task Force was more concerned with resolving minor disputes
than with the group problem.

Benchmark Three

Considers pertinent inputs to a problem and arrives at a solution.
Plans material and assesses facts and data fairly well. During Manage-
ment Problems, developed solutions to problems and brought them out
after considerable thought and listening to others. In Research Budget
could not completely solve problem because of insufficient data. In
Supervisory Task Force, generally took ideas of others and refined
them toward a group solution.

Benchmark Four

Uses rational approaches based on facts, considers options, and
easily arrives at good solutions to the problems posed. Combines others
suggestions as necessary to arrive at solutions. Readily understood
problems in Management Problems and presented accepted solutions to
two. Recommend logical first step to the Research Budget problems. In
Supervisory Task Force, identified barriers to agreement and proposed
alternative methods to resolve.

Figure 6-12

DEFINITION AND BENCHMARKS: PROBLEM SOLVING

Decision Making: To what extent can this individual make decisions based on sound rationale?

Additional points to consider:

  Ability to determine key issues
  Is decision making process logical and methodical?
  Are all inputs considered?

Note: See Figure 6-16 for relationship between Decision Making, Problem Solving, and Acquiring Information

Benchmark Two

Decision were tentative. Rarely makes a firm statement. When a decision is made, the quality is questioned since it is readily changed to accomodate challenges and/or additional information. In Research Budget, didn't feel adequate information was available until the very end of the exercise. Reached no decision in the Organizational Problem. Based any decisions on assumptions and feelings rather than factual information.

Benchmark Three

Willing to make decisions. In group exercises, decisions were fairly logical and convincing. Also decisive in one-on-one situation, but decisions not always based on sound logic. In Management Problems, positively stated decision regarding one of the four problems. Appears able to make a decision, but sometimes reluctant to put it before a group. Will usually support decisions in face of challenges. In City Council decided to withdraw department.

Benchmark Four

Makes decisions quickly which are reasonable and supportable. Does not hesitate to change position if additional information is obtained and justifies a reversal. Decisions based on good insight and facts. In City Council was willing to make a decision with available facts well before time expired. In the Research Budget made good decision supported with solid rationale. Used positive approach, ignoring irrelevant data.

Figure 6-13

DEFINITION AND BENCHMARKS: DECISION MAKING

Written Communication Skills: To what extent can this individual effectively express ideas in a well-organized, grammatically correct written form?

Additional po...ts to consider:

Are sentences and paragraphs well-structured?
Is the report easy to read and understand?
Is the report clear and concise, or are excess words used?
Handwriting should not be a factor unless it distracts from the message
Does the report have an introduction, main points, and conclusion?

Benchmark Two

Writing lacks style and organization. Written mostly in long rambling sentences with little substance. Transitions between sentences and paragraphs poor. Some incomplete sentences. What was written in the Research Budget was merely a restatement of the original problem and the information collected.

Benchmark Three

Written exercises were fairly clear and logical. Usually easy to read and coherent. Had no conclusions in Organizational Problem report. Narrative report in Research Budget pulled together the data obtained. Good grammar, only a few instances of improper sentence structure or misspelling. Satisfactory organization, but did not include all available facts in written report for Research Budget.

Benchmark Four

Uses logical organization and better than average sentence structure. Material is well though out and easily understood. Used facts effectively in Research Budget to bring point across. Contains very little superfluous material. Writing is complete, factual, displays good vocabulary with very few errors in spelling

Figure 6-14

DEFINITION AND BENCHMARKS: WRITTEN COMMUNICATION SKILLS

Dimension	Key Point
Leadership	Gets others to accomplish task
Persuasiveness	Gets others to accept ideas
Forcefulness	Gets others to pay attention
Energy	Level of activity

Figure 6-15

RELATIONSHIP BETWEEN LEADERSHIP, PERSUASIVENESS,

FORCEFULNESS, AND ENERGY

Dimension	Key Point
Decision Making	Selecting alternatives best supported by the information available
Problem Solving	Evaluating and interpreting information
Acquiring Information	Determining information needs and identifying sources

Figure 6-16

RELATIONSHIP BETWEEN DECISION MAKING, PROBLEM SOLVING

AND ACQUIRING INFORMATION

Most assessment centers achieve these results by means of the feedback interview for which the assessors receive special training. The content of the interview is based on a report written by the assessor giving the interview. The report typically provides a rating for each of the dimensions evaluated, an overall rating of the candidates potential for success, and a narrative description of the candidates strengths and weaknesses. A center used for management development would emphasize future needs and would provide a plan for correcting deficiencies. Appendix E provides a suggested outline for the assessor feedback interview. It is based on two different outlines used with the ASD Center and one outline developed by Salter and Olmstead (1974:2) shown in Figure 4-1.

Even before the feedback interview, assessees usually complete the assessment center with a good idea of how they have done. Just the experience of going through the assessment center should lead to increased self-insight into their own strengths and weaknesses. According to Byham (1971:12) such self-insight is usually fairly accurate.

Data Gathering

The updated ASD Center can be used to further investigate the usefulness of the assessment center for management development. Any further investigation should be directed toward determining (1) the validity of the ASD Center using Air Force officers as assessors and assessees, and (2) the usefulness to individual Air Force officers in terms of providing feedback for management development.

At the beginning of this research effort, it was envisioned that a pilot center evaluating 24 or more ASD Captains be run to gather the

information needed to answer those questions. Majors and Lieutenant Colonels would be trained to serve as the assessors.

Empirical validation similar to that presented in Chapter V should be accomplished and compared with the present results to detect any differences or problems in the assessment center operation. In addition, feedback should be solicited from the assessees in order to obtain their reactions to the assessment center. A questionnaire developed to assist in this process is shown in Figure 6-17. Appendix D, referenced previously, served as the basis for this questionnaire. Finally, the assessors themselves should be questioned to determine their reactions to the assessment center. The questionnaire shown in Figure 6-18 was developed for this purpose.

Summary

This chapter has presented the results of efforts to modify the 1974-75 ASD Assessment Center design for possible use as a pilot assessment center for management development of Air Force officers. The modification included expanded definitions, specially developed benchmarks, an outline for providing assessor feedback, and outlines for obtaining reactions from both assessees and assessors.

1. Did you have any prior knowledge concerning the assessment center method?

2. How much previous counseling have you had concerning your developmental needs in the area of management skills?

3. Were the exercises realistic compared to your view of an Air Force manager's job?

4. Do you feel that the dimensions used in this assessment center accurately reflect the management skills needed by Air Force managers? What would you delete? What would you add?

5. Would you consider the assessment center worthwhile without the final feedback interview?

6. In your opinion, were the assessors well-qualified?

7. Do you agree with the feedback you received in the final interview? If not, please explain.

8. Did you recognize your development needs prior to the assessment center?

9. Did you recognize your strong points prior to the assessment center?

10. Do you believe the assessment center method is of value as a management development tool for Air Force officers?

11. Would you recommend the assessment center to others as a developmental tool?

12. Do you think the assessment center should be used throughout the Air Force for officer development?

Figure 6-17. Assessee Reaction Questionnaire

1. In your opinion, is the assessment center an effective counseling technique?

2. Do you find it easier to give more objective feedback in the assessment center environment?

3. Do you think all supervisors should be required to serve as assessors?

4. Do you think all supervisors should receive assessor training, even if they do not ever serve as assessors?

5. Were the exercises realistic compared to your view of an Air Force manager's job?

6. Do you feel that the dimensions used in this assessment center accurately reflect the management skills needed by Air Force managers? What would you delete? What would you add?

7. Do you feel that your participation as an assessor will make you a better supervisor? If so, in hat ways?

8. Was the training you received adequate? If not, please explain.

9. Do you think the assessment center should be used throughout the Air Force for officer development?

Figure 6-18. Assessor Reaction Questionnaire

CHAPTER VII

SUMMARY AND CONCLUSIONS

Summary

"Officer Development" is a broad term encompassing both technical and management training throughout an officer's career. The Air Force has adopted both formal and informal methods of development. The focus of this thesis has been on that portion of development concerned with management skills. Weaknessess have been identified in the informal methods of officer management development, particularly regarding feedback to officers concerning their management skills. The assessment center was investigated as a method of identifying strengths and weaknesses in an officer's management skills.

Assessment centers have been used previously by the military. They were used by the Germans in World War I and the British in World War II for officer selection, and by the United States in World War II for the selection of intelligence agents. Since World War II, the assessment center has received limited use by the military service; however, both the Army and the Air Force have conducted trial centers and performed research as well. In American industry they have been used for a number of different purposes since 1956. These uses include employment, early identification, placement, advancement, development, affirmative action, and training. The principal use has been to aid

118

in selection of personnel for advancement or promotion; however, there is a growing trend toward combining assessment and development.

The ASD Management Assessment Center, operated at Wright-Patterson AFB in 1974-1975, was examined for application to management development of Air Force officers. Its dimensions included most of the criteria identified as important to officer development. A study of this center revealed that it appears to be valid with regard to content, predictive ability and internal design. The only problem appeared to stem from inadequate training of assessors in observing and recording dimensions. Other conclusions concerning the validity study are discussed later in this chapter.

After conducting the validity study and determining that the ASD Management Assessment Center could be used for officer development, the ASD model was updated for future application. This update involved three areas. First, a program for training assessors was described. To aid in training, expanded dimension definitions and benchmarks based on assessor reports were prepared to aid in standardization of ratings. Second, the feedback of assessment results to assessees was discussed since this is perhaps the most crucial part of a development center. An outline was suggested to guide the feedback interview. Finally, the approach to gathering additional data from assessees and assessors about the utility of this method for management development was discussed.

Conclusions

1. There is a need for improved officer management development

programs particularly in the area of feedback on strengths and weaknesses in management skills.

2. The ASD Management Center is a valid model for assessing the strengths and weaknesses of Air Force officers assigned to scientific and engineering positions at ASD, although some problems were detected in the measurement of several dimensions. Detailed conclusions are listed below:

a. Acquiring information should be excluded from the Interview.

b. The organizational problem exercise needs to be examined for possible problems in the measurement of dimensions within that exercise.

c. Measurement problems exist for the stress tolerance dimension. This was indicated first by the low inter-rater reliability and second by reviewing the assessor worksheets.

d. Evidence indicates that empathy is a dimension independent of all others and has little bearing on performance within the assessment center. It is felt that empathy can be eliminated from the dimensions evaluated.

3. Training of assessors in the accurate evaluation of individuals in the different dimensions is the key element in the effectiveness of the assessment center. Precise and differentiable definitions and benchmarks for calibrating assessee behavior in a specific dimension are essential.

4. Although a vast amount of knowledge is available on assessment centers and even though the military has conducted considerable

research, more data is needed in order to fully evaluate the effective-
ness of the assessment center in the Air Force for development and
other purposes.

Recommendations

1. Conduct a pilot assessment center as described in Chapter VI.
The primary purpose of this effort should be to assess the reaction of
Air Force officers to the use of the assessment center as a management
development method.

2. Investigate other criterion variables, such as the results
of a personal interview on job performance with the assessee's
immedia.e supervisors, for determining the predictive validity of
both the ASD Center and the pilot assessment center.

3. Accomplish additional research to determine what differences
if any, exist in dimensions critical to success for civilian managers
versus Air Force managers. This should include an examination of
whether or not an assessment center should be designed for general
management development of all Air Force officers or if it needs to be
specifically designed for a target job.

4. Investigate the possible implementations of an Air Force
wide assessment center program for management development. This should
include an examination of such areas as: frequency, cost, location,
manning, and potential candidates.

APPENDICES

APPENDIX A

STANDARDS AND ETHICAL CONSIDERATIONS

FOR ASSESSMENT CENTER OPERATIONS

Task Force on Development of Assessment Center Standards

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1. **Rationale for Assessment Center Standards**

   The rapid growth in the use of the Assessment Center Method in
   recent years has resulted in a proliferation of applications in
   a variety of organizational, educational and governmental settings.
   Serious concerns have been raised by many interested parties which
   reflect a need for a set of minimal professional standards for
   users of this technique.   These standards should:

   - define what is meant by an assessment center

   - describe minimal acceptable practices concerning:

       -- organizational support for assessment operations

       -- assessor tr ing

       -- informed consent on the part of participants

       -- use of assessment center data

       -- validation issues

   These standards are not desigr   to prescribe specific practices.
   Neither do these standards ir   / way endorse a specific assessment
   center format or specific assessment techniques. Rather, we have
   attempted to provide general principles which can be adapted to
   meet existing and future applications. The reader should keep in
   mind the spirit by which these standards were written: as an aid to
   the assessment center user, rather than as a set of restrictive
   prohibitions.

2. **Assessment Center Defined**

   To be considered as an assessment center, the following minimal
   requirements must be met:

   1. Multiple assessment techniques must be used. At least
       one of these techniques must be a simulation.

           A simulation is an exercise or technique
           designed to elicit behaviors related to
           dimensions of performance on the job by
           requiring the participant to respond be-
           haviorally to situational stimuli. The
           stimuli present in a simulation parallel
           or resemble stimuli in the work situation.
           Examples of simulations include group
           exercises, in-basket exercises and tact
           finding exercises.

125

2. Multiple assessors must be used. These assessors must receive training prior to participating in a center.

3. Judgements resulting in an outcome (i.e., recommendation for promotion, specific training or development) must be based on pooling information from assessors and techniques.

4. An overall evaluation of behavior must be made by the assessors at a separate time from observation of behavior.

5. Simulation exercises are used. These exercises are developed to tap a variety of predetermined behaviors and have been pretested prior to use to insure that the techniques provide reliable, objective and relevant behavioral information for the organization in question.

6. The dimensions, attributes, characteristics or qualities evaluated by the assessment center are determined by an analysis of relevant job behaviors.

7. The techniques used in the assessment center are designed to provide information which is used in evaluating the dimensions, attributes or qualities previously determined.

In summary, an assessment center consists of a standardized evaluation of behavior based on multiple inputs. Multiple trained observers and techniques are used. Judgements about behavior are made, in part, from specially developed assessment simulations.

These judgements are pooled by the assessors at an evaluation meeting during which all relevant assessment data are reported and discussed, and the assessors agree on the evaluation of the dimensions and any overall evaluation that is made.

The following kinds of activities do not constitute an assessment center:

1. Panel interviews or a series of sequential interviews as the sole technique.

2. Reliance on a specific technique (regardless of whether a simulation or not) as the sole basis for evaluation.

3. Using only a test battery composed of a number of pencil and paper measures, regardless of whether the judgements are made by a statistical or judgmental pooling of scores.

4. Single assessor assessment (often referred to as individual assessment) - measurement by one individual using a variety of techniques such as pencil and paper tests, interviews, personality measures or simulations.

126

5. The use of several simulations with more than one assessor where there is no pooling of data, i.e., each assessor prepares a report on performance in an exercise, and the individual reports (unintegrated) are used as the final product of the center.

6. A physical location labeled as an "assessment center" which does not conform to the requirements noted above.

3. Organizational Support for Assessment Center Operations

The assessment center should be administered in a professional manner with concern for the treatment of individuals, accuracy of results and overall quality of the operation. Assessment centers should be incorporated as part of a total system rather than as a process that operates in a vacuum. Considerable care and planning should precede the introduction of an assessment center. Policy statements concerning assessment operations should be formally developed and agreed upon by the organization. Minimal considerations in developing this policy should include:

1. The population to be assessed.

2. The purpose of assessment.

3. The kinds of people who will serve as assessors.

4. The type of training they receive and who is to provide it.

5. The responsibility for administration of the center.

6. Specific restrictions concerning who is to see the assessment data, and how they are to be used.

7. Procedures for collection of data for research and program evaluation.

8. Feedback procedure to participants and management.

9. Expected "life" of assessment center data - i.e., the length of time assessment center data will be kept in the files and used for decision making purposes.

10. The professional qualifications (including relevant training) of the individual or individuals initially responsible for developing the center.

4. <u>Assessor Training</u>

Assessors should receive sufficient training to enable them to
evaluate intelligently the behaviors measured in the center.
"Sufficient training" will vary from organization to organization
and is a function of many factors including:

- The length of time an individual serves as an assessor.

- The frequency of individual participation as an assessor.

- The amount of time devoted to assessor training.

- The qualification and expertise of the assessment center
  trainer.

- The assessment experience of other members of the
  assessment staff.

- The use of professionals (i.e., licensed or certified
  psychologists) as assessors.

The above list is illustrative of the many issues related to
assessor training. There is more variability in this area than
in any other section of the standards.

While we do not wish to establish minimal standards concerning
the number of hours of assessor training needed, it is difficult
to imagine assessors functioning effectively with only a one or
two hour orientation prior to serving as an assessor. However,
whatever the approach to assessor training, the essential goal is
attaining accurate assessor judgments. A variety of training
approaches can be used, as long as it can be demonstrated that
accurate assessor judgments are obtained. The following minimum
training is required:

1. Knowledge of the assessment techniques used. This could
   include, for example, the kinds of behaviors elicited by
   each technique, relevant dimensions to be observed,
   expected or typical behaviors, examples or samples of
   actual behaviors, etc.

2. Knowledge of the assessment dimensions. This could
   include, for example, definitions of dimensions, rela-
   tionship to other dimensions, relationship to job
   performance, examples of effective and ineffective
   performance, etc.

3. Knowledge of behavior observation and recording including
   the forms used by the center

4. Knowledge of evaluation and rating procedures including how data are integrated by the assessment center staff.

5. Knowledge of assessment policies and practices of the organization, including restrictions on how assessment data are to be used.

6. Knowledge of feedback procedures where appropriate.

In addition, some measurement is needed indicating that the individual being trained has the capability of functioning as an assessor. The actual measurement of assessor performance may vary and could, for example, include data in terms of rating performance, critiques of assessor reports, observation as an evaluator, etc. What is important is that assessor performance is evaluated to insure that individuals are sufficiently trained to function as assessors, prior to their actual duties, and that such performance is periodically monitored to insure that skills learned in training are applied.

5. Informed Consent on the Part of Participants

Informed consent is a fundamental concern in conducting an assessment center program. This means that the participant is given sufficient information prior to assessment to evaluate intelligently the nature of the program and the consequences of attending or not attending a center. While organizations have the right to require participation in an assessment program as a condition of employment or advancement, individuals should not simply be "sent" to a center with little awareness of why they are going. Rather, they should be provided with sufficient information to decide whether or not they should attend.

While the actual information provided will vary from organization to organization, the following basic information should be given to all prospective participants:

1. The purpose of the center and the objectives of the program.

2. How individuals are selected to participate in the center.

3. General information about the assessors - the composition of the staff and their training.

4. General information concerning the assessment process itself. This should include a description of the techniques and how the results will be used, the kind of feedback given.

5. Reassessment policy.

It is recognized that many assessment center programs have descriptive names or titles which are often neutral or purposefully general.

129

This is an acceptable practice. However, it would be inappropriate to suggest to participants that the assessment center is for personal development or training when the clear intent is for selection or management staffing.

6. Use of Assessment Center Data

One characteristic of an assessment center is the volume of data produced. There are many different forms of assessment data, ranging for example, from observer notes, to reports on performance in the assessment techniques, to assessor ratings and reports prepared for management. The preceding is not exhaustive and could also include participant and peer reports and observations, biographical and test data, etc.

The specific purpose of the reports and data obtained by the assessment center should be clearly established. This will include a statement concerning individuals who will have access to assessment data, the kind of information they will receive and the format that will be provided.

The recipient of assessment data will be given sufficient information or training so that the data provided can be clearly interpreted. This will include an estimate of the relevance of current assessment data for the use in the future.

The individual assessed should be informed of how the assessment data are to be used. This will include:

1. Who has access to assessment reports.

2. Whether participants will normally receive feedback concerning assessment performance. If not, provisions must be made to provide such information upon specific request.

3. How long assessment information will be retained for operational use (as opposed to research use).

7. Validation Issues

A major factor in the widespread acceptance and use of assessment centers is directly related to an emphasis on sound validation research. Numerous studies have been conducted and reported in the professional literature demonstrating the validity of the assessment center process in a variety of organizational settings.

The historical record of the validity of this process, however, cannot be taken as a guarantee that a given assessment program will or will not be valid in a given setting. Because of this, each user must ascertain the validity of the program as applied in one's organization. The technical standards and principles for validation are well documented and appear in "Principles for the Validation and Use of Personnel Selection Procedures" prepared by the Division of Industrial and Organizational Psychology, American Psychological Association, 1975 and "Standards for Educational and Psychological Tests and Manuals" prepared by the American Psychological Association, 1974.

In addition to the above standards, which include provisions related to demonstrating fairness and validity; some specific guidelines are provided for assessment center programs. These include:

1. The ability to document the selection of dimensions, attributes or qualities evaluated in the center.

2. The ability to document the relationship of assessment center techniques to specific dimensions, attributes or qualities evaluated.

3. The ability to document the demographic composition of the assessment staff as representative of the group of individuals assessed.

8. Concluding Statement

It became obvious in developing these standards that the standards should serve as guidelines rather than doctrine. Rather than create a set of standards that become ends in themselves, the authors attempted to provide a series of general principles which can apply to both managers and professionals using this technique. These standards should enable the assessment center professionals to create, implement and maintain assessment center programs that protect the rights of individuals while meeting organizational needs at the same time.

APPENDIX B

132

REPLY TO
ATTN OF   ASD/DPCU

16 AUG 1973

SUBJECT   Supervisory Abilities Inventory

TO

1. The Air Force Systems Command is planning to test a new method of identifying and assessing potential candidates for first level supervisory positions. Your assistance is requested in identifying the abilities essential to effective performance as a first level supervisor in your organization. Please complete the attached Supervisory Abilities Inventory and return to ASD/DPCU by 30 August 1973.

2. In determining supervisory effectiveness there are many personal characteristics considered to be important. Generally speaking, these can be placed in one of the following areas:

- Supervisory Traits

- Supervisory Knowledge

- Supervisory Abilities

Supervisory traits are characteristics which relate to such factors as loyalty, integrity, attitude, honesty, etc. Supervisory knowledge characteristics are such factors as job knowledge, and work experience. Supervisory abilities are characteristics which enable the individual to effectively manage his work, and the work of others.

In order to develop a Supervisory Candidate Assessment Center for use in the Air Force Systems Command, we are interested in your views concerning abilities and skills needed to become an effective supervisor.
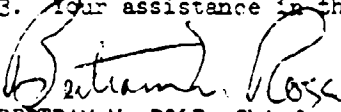
Attached you will find a list of supervisory abilities. Please rate these in terms of the importance you place on these areas among your first level subordinates. Not all of these ability areas are equally important. Rate these abilities as follows:

Critically Important:	5
Somewhat Important:	4
Usually Helpful:	3
Somewhat Unimportant:	2
Not Necessary:	1

133

Space has been provided for you to add other ability areas
which are not covered in the list. Please give a brief
description or definition of the ability and then rate its
importance.

Do not include traits (such as loyalty, integrity, etc.) or
experience (job knowledge). These characteristics are important.
However, we are interested in <u>your view</u> of the <u>abilities</u> needed
to successfully perform as an ASD or AFAL supervisor at
Wright-Patterson AFB.

3. Your assistance in this effort is most appreciated.

BERTRAM M. ROSE, Chief   1 Atch
Civilian Personnel Division   Inventory
DCS/Personnel

SUPERVISORY ABILITIES INVENTORY

Name: _____ Grade: _____

Title: _____

Organizational Symbol: _____ Date: _____

DIRECTIONS: Please rate each of the following abilities in terms of importance
in performing as a first level supervisor in your organization. You may add
any other ability area not covered in the list which you feel is important.
Please describe or define this ability and then rate its importance. Rate the
abilities using the numerical scale shown:

>   Critically Important: 5
>   Somewhat Important: 4
>   Usually Helpful: 3
>   Somewhat Unimportant: 2
>   Not Necessary: 1

(Note: The abilities shown are not equally important and are not listed in
any particular order of importance.)

RATING

FLEXIBILITY: Able to adjust to new situations easily _____

ORGANIZING SKILLS: Can plan and organize work of self and others. _____

ORAL SKILLS: Can express ideas orally. _____

WRITTEN SKILLS: Can express ideas in writing. _____

ENERGY: Maintains a high level of activity. _____

PROBLEM SOLVING: Able to find best solution easily. _____

LEADERSHIP: Able to get others to work effectively in a group. _____

PERSUASIVENESS: Able to sell his point of view to others _____

DECISION MAKING: Makes decisions of high quality _____

FORCEFULNESS: Able to command attention from others _____

ORIGINALITY: Able to approach problems in a new way _____

ACQUIRING INFORMATION: Able to obtain information _____

RISK TAKING: Willing to take risk/responsibility to achieve
             objectives. _____

STRESS TOLERANCE: Able to respond appropriately to stressful
             conditions _____

_____ _____

_____ _____

_____ _____

APPENDIX C

AIR FORCE ASSESSMENT CENTER

Analysis of Supervisory Dimensions

J. L. Moses, Ph.D.

October 1973

Introduction

A special study was conducted at Wright-Patterson Air Force Base
in order to determine those factors viewed by management personnel as
important for success as a first level manager. This study was the
first step in designing an Assessment Center for the Air Force Systems
Command. In addition to determining supervisory dimensions, the study
was designed to analyize whether any significant differences in the
characteristics required to be a successful supervisor existed among
personnel in two organizations planning to use an Assessment Center, ASD
and AFAL.

A special rating form, The Supervisory Abilities Inventory, was
developed. This consisted of a series of 14 different abilities generally
found related to supervisory success. These abilities and their definitions
are:

- Flexibility: Able to adjust to new situations easily

- Organizing Skills: Can plan and organize work of self and others.

- Oral Skills: Can clearly express ideas orally.

- Written Skills: Can clearly express ideas in writing.

- Energy: Maintains a high level of activity.

- Problem Solving: Able to find best solution easily.

- Leadership: Able to get others to work effectively in a group.

- Persuasiveness: Able to sell his point of view to others.

- Decision Making: Making decisions of high quality.

- Forcefulness: Able to command attention from others.

- Originality: Able to approach problems in a new way.

- Acquiring Information: Able to obtain information.

- Risk Taking: Willing to take risks/responsibility to achieve

               objectives.

- Stress Tolerance: Able to respond appropriately to stressful

               conditions.

The Supervisory Abilities Inventory also had space provided for
the supervisor to offer additional abilities. The Inventory was admin-
istered to supervisory personnel in the ASD and AFAL organizations at
Wright-Patterson Air Force Base. Each individual was given a cover letter
explaining the purpose of the inventory, and was asked to rate each of the
fourteen dimensions on a five point scale ranging from 5: critically
important; 4: somewhat important; 3: usually helpful; 2: somewhat unim-
portant; 1: not necessary. The supervisor was also advised that he could
add any other ability areas not covered in the Inventory which he felt was
important. As noted, space was provided for this on the Inventory.

139

Supervisors Studied

A total of 147 supervisors participated in this study. Of these ,
140 were GS level 12 or higher. A total of 60 supervisors from ASD and
87 from AFAL completed the Supervisory Abilities Inventory. This was a
large sample and was representative of supervisory personnel in each
organization. A breakdown of the participants by GS level and organization
is presented in Table 1.

TABLE 1

NUMBER OF PARTICIPANTS BY ORGANIZATION AND LEVEL

GS LEVEL	ASD	AFAL
16	-	1
15	15	11
14	35	35
13	10	22
12	-	11
11 or less	-	7
TOTAL	60	87

Analysis of Results

All of the 14 dimensions listed on the Supervisory Abilities Inventory were judged to be at least "usually helpful" for the supervisory success as a first level manager. The following abilities, listed in their order of importance were seen as:

- Critically important: Leadership
  Organization skills
  Decision making

- Somewhat important: Oral skills
  Written skills
  Flexibility
  Stress tolerance
  Persuasiveness
  Risk Taking
  Problem solving
  Acquiring information

- Usually helpful: Forcefulness
  Energy

The mean ratings for the AFAL and ASD supervisors are presented in Table 2.

141

TABLE 2

MEAN RATINGS OF AFAL AND ASD

SUPERVISORS OF RATINGS ON SUPERVISORY ABILITIES INVENTORY

Dimension	AFAL (N=87)	ASD (N=60)
Leadership	4.80	4.86
Organizing Skills	4.68	4.03
Decision Making	4.45	4.55
Oral Skills	4.44	4.28
Written Skills	4.33	4.18
Flexibility	4.21	4.25
Stress Tolerance	4.20	4.23
Persuasiveness	4.14	4.08
Risk Taking	4.09	4.05
Problem Solving	4.04	3.93
Acquiring Information	3.80	3.81
Originality	3.79	3.50
Forcefulness	3.57	3.71
Energy	3.56	3.41

As seen in Table 2, there is a high degree of agreement between the ratings made by ASD and AFAL supervisors. The mean ratings were converted to rnak order scores and are presented in Table 3.

TABLE 3

RANK ORDER OF SUPERVISORY ABILITIES BY

ASO AND AFAL SUPERVISORS

Dimension	Ranking AFAL	ASO
Leadership	1	1
Organizing Skills	2	2
Decision Making	3	3
Oral Skills	4	4
Written Skills	5	7
Flexibility	6	5
Stress Tolerance	7	6
Persuasiveness	8	8
Risk Taking	9	9
Problem Solving	10	10
Acquiring Information	11	11
Originality	12	13
Forcefulness	13	12
Energy	14	14

The ranking indicates virtually complete agreement of the relative importance of these attributes by supervisors in both organizations. A rank order correlation coefficient was computed, and a correlation of .983 was obtained between the rankings shown in Table 3. For all practical purposes, supervisors in both these organizations hold views concerning the attributes required to be a successful first level manager.

The data was examined in greater detail to determine whether different rating patterns existed as a function of management level. These are presented in Table 4. The ratings of the one GS-16 Supervisor in AFAL were combined with the GS-15 group. The ratings of the supervisors at GS-11 or less were not included as the number of cases (7) was too small to constitute a meaningful subgroup.

As can be seen, there is generally close agreement for supervisors at different levels in both organizations. With a few exceptions, first level incumbents, their supervisors and their supervisors' bosses tend to substantially agree on the abilities needed for success as a first level supervisor. To some extent, there is more disagreement among supervisors in the same organization concerning the relative rating given a dimension, than supervisors in AFAL when compared to their counterpart in ASD. Table 5 shows these comparisons more clearly. It presents the differnces between mean ratings for the ASD and AFAL groups, as well as differences within ASD and AFAL between higher and lower GS level supervisors. For AFAL, differences are shown between supervisors at GS level 15 and 12; for ASD between GS levels 15 and 13.

TABLE 4

MEAN RATINGS BY G.S. LEVEL OF AFAL AND ASD SUPERVISORS

	AFAL					ASD		
	GS 15	GS 14	GS 13	GS 12		GS 15	GS 14	GS 13
Leadership	4.66	4.94	4.50	5.00		4.93	4.85	4.80
organizing Skills	4.66	4.73	4.54	4.72		4.87	4.51	4.70
Decision Making	4.41	4.42	4.40	4.59		4.46	4.54	4.70
Oral Skills	4.58	4.45	4.54	4.36		4.26	4.28	4.30
Written Skills	4.33	4.51	4.31	4.09		4.06	4.31	3.90
Flexibility	4.33	4.20	4.00	4.36		4.13	4.37	4.00
Stress Tolerance	4.16	4.28	4.00	4.00		4.20	4.28	4.10
Persuasiveness	4.58	3.97	4.04	4.18		4.00	4.20	3.80
Risk Taking	3.83	3.97	3.90	4.63		4.06	4.11	3.80
Problem Solving	4.08	3.82	4.13	4.09		4.00	3.65	4.10
Acquiring Information	3.75	3.80	3.59	3.72		3.93	3.80	3.70
Originality	3.58	3.54	4.09	3.81		3.26	3.60	3.50
Forcefulness	3.66	3.51	3.40	3.81		3.80	3.82	3.20
Energy	3.66	3.31	3.68	3.72		3.40	3.48	3.20

TABLE 5

DIFFERENCES BETWEEN MEAN RATINGS BY ASD AND AFAL

SUPERVISORS AS A FUNCTION OF ORGANIZATION AND GS LEVEL

Dimension	AFAL vs ASD	AFAL GS-15 vs GS-12	ASD GS-15 vs GS-13
Leadership	.06	.34	.13
Organizing Skills	.05	.06	.17
Decision Making	.10	.18	.24
Oral Skills	.16	.22	.04
Written Skills	.15	.24	.16
Flexibility	.04	.03	.13
Stress Tolerance	.03	.16	.10
Persuasiveness	.06	.40	.20
Risk Taking	.04	1.20	.26
Problem Solving	.11	.01	.10
Acquiring Information	.01	.03	.23
Originality	.29	.23	.24
Forcefulness	.14	.15	.60
Energy	.15	.06	.20

As noted, the differences in the mean rating between AFAL and ASD supervisors are slight. For example, the mean rating difference for the leadership dimension was six one/hundredth's. These differences ranged from .01 to .29 of a rating scale unit. Not only do supervisors in both of these organizations rank these abilities similarly, they also rate them substantially the same.

For the most part, lower and higher level supervisors agreed on the importance of these dimensions, regardless of whether these supervisors were in ASD or AFAL. There are only two abilities viewed considerably different by supervisors in each organization. AFAL higher level supervisors rated risk taking less important than did lower level supervisors. ASD higher level supervisors saw forcefulness as more important than did lower level supervisors. With these two conceptions, all of the remaining ratings substantially agreed.

Analysis of Additional Comments Made by Supervisors

As noted earlier, space was provided on the Supervisory Abilities Inventory for the supervisors to add additional dimensions not considered in the Inventory. A a general rule, most supervisors did not add any dimensions, evidently feeling that the list provided in the Supervisors Abilities Inventory was sufficient. A total of eighteen supervisors in ASD and twelve supervisors in AFAL provided additional dimensions. These included such diverse areas as "accept direction" to "productivity". One area was mentioned by several supervisors and might be included if techniques can be developed to reliably measure this attribute. This area, empathy, was defined as a concern for those supervised.

Conclusion

The results of this analysis indicate that supervisors in both ASD and AFAL view identically the qualities needed for success as a first level supervisor in their respective organizations. These abilities are: leadership, organizing skills, decision making, oral skills, written skills, flexibility, stress tolerance, persuasiveness, risk taking, problem solving, acquiring information, originality, forcefulness, and energy. An additional quality, empathy, was added by some supervisors.

No significant differences were noted in ratings or rankings of ratings made by supervisors in ASD and AFAL. This means that a similar assessment program available to both organizations can and should be utilized. It is also possible to assess individuals simultaneously from both organizations in a single assessment center if so desired.

The Supervisory Abilities Inventory, having proved useful in determining the relative rank order of importance perceived by incumbent supervisors, might make for a useful assessment technique. It can have particular merit in counseling individuals concerning the relative significance of supervisory abilities needed at both ASD and AFAL.

APPENDIX D

149

ASSESSMENT CENTER TRIAL RUN

Questionnaire

A.   To refresh your memory, the activities in the 2-day Assessment Center are briefly described as follows:

1.   Participate as task force members to make recommendations for ranking supervisory attributes.

2.   Group exercise where each member must persuade his peers to adopt city budget recommendation assigned at random at beginning of exercise.

3.   Participate on Committee which must resolve four varied management problems.

4.   Individual fact-finding exercise to obtain relevant information needed to make decision.

5.   Prepare formal written proposal.

6.   Personal interview with Assessor.

7.   Complete biographical questionnaire.

8.   Complete Career Development Inventory.

9.   Work preference tests (three).

10.   Feedback interview with Assessor a few days after Assessment Center exercises were completed.

B.   A series of questions will now be addressed to each of the above exercises. Please answer to the best of your ability by placing a circle around appropriate answer, or by providing comment.

1.   Task Force Member Exercise

a.   Were the instructions clear and problem structured so that you could approach problem in rational manner?

_91%_ YES   _2%_ NO   _6%_ DON'T KNOW

b.   Was problem realistic enough to provide discussion interplay between the group members?

94% YES   2% NO   4% DON'T KNOW

150

c. Was adequate time allowed for this problem during the
Assessment Center?

   83%   YES   13%   NO   4%   DON'T KNOW

d. Did the ranking of yourself and other members of the group at
the end of the session provide insight into the exercise?

   57%   YES   21%   NC   21%   DON'T KNOW

e. Did the presence of the Assessor in the room bother you after
the first few minutes?

   6%   YES   89%   NO   4%   DON'T KNOW

f. Was the problem too difficult?

   2%   YES   96%   NO   2%   DON'T KNOW

2. City Budget Recommendation

a. Were the instructions clear and problem structured so that
you could approach problem in rational manner?

   91%   YES   9%   NO   DON'T KNOW

b. Was problem realistic enough to provide discussion interplay
between the group members?

   87%   YES   13%   NO   DON'T KNOW

c. Was adequate time allowed for this problem during the
Assessment Center?

   66%   YES   34%   NO   DON'T KNOW

d. Did the ranking of yourself and other members of the group
at the end of the session provide insight into the exercise?

   55%   YES   26%   NO   17%   DON'T KNOW

e. Did the presence of the Assessors in the room bother you after
the first few minutes?

   4%   YES   94%   NO   DON'T KNOW

151

f. Was the problem too difficult?

   2%   YES   91%   NO   6%   DON'T KNOW

3. Committee to Solve Four Management Problems

   a. Were the instructions clear and problem structured so that you could approach problem in a rational manner?

      100%   YES   NO   DON'T KNOW

   b. Was problem realistic enough to provide discussion interplay between the group members?

      98%   YES   2%   NO   DON'T KNOW

   c. Was adequate time allowed for this problem during the Assessment Center?

      81%   YES   15%   NO   4%   DON'T KNOW

   d. Did the ranking of yourself and other members of the group at the end of the session provide insight into the exercise?

      57%   YES   26%   NO   17%   DON'T KNOW

   e. Did the presence of the Assessors in the room bother you after the first few minutes?

      6%   YES   94%   NO   DON'T KNOW

   f. Was the problem too difficult?

             YES   100% NO   DON'T KNOW

4. Fact-finding Exercise - Continuation of Research Project

   a. Were the instructions clear and problem structured so that you could approach problem in rational manner?

      79%   YES   15%   NO   6%   DON'T KNOW

   b. Did the Assessor respond to questions promptly and provide additional information in a complete manner?

      77%   YES   19%   NO   4%   DON'T KNOW

152

c. Did you feel frustrated, angered, or pressured during the 10-minute questioning period?

      14%   frustrated

      4%   angered

      20%   pressured

      61%   none of the above

5. <u>Writing Assignment on Changing Organization</u>

a. Was the problem thought-provoking to the point that you were able to present your ideas in writing without undue difficulty?

    79%   YES   21%   NO   DON'T KNOW

b. Was the writing assignment too easy?

    2%   YES   89%   NO   9%   DON'T KNOW

6. <u>Interview With Assessor During Assessment Center</u>

a. Was adequate time allowed for the interview?

    91%   YES   4%   NO   4%   DON'T KNOW

b. Was a meaningful discussion held between you and the Assessor during the interview?

    81%   YES   11%   NO   9%   DON'T KNOW

c. The interviews are structured to delve into a number of areas which are normally considered personal. Was the interview too personal?

        YES   98%   NO   2%   DON'T KNOW

d. The interview is fairly comprehensive. Have you received a more in-depth interview with any of the other merit promotion or performance evaluation programs?

    9%   YES   85%   NO   6%   DON'T KNOW

7. The Completion of the Biographical Questionnaire

   a. The questions on the "Background Questionnaire" are fairly comprehensive considering your academic and personal life. Are they too personal?

                  YES   96%   NO   4%   DON'T KNOW

   b. Was the information assembled sufficient to provide a good discussion during the interview with the Assessor?

       74%   YES   15%   NO   11%   DON'T KNOW

   c. Would you recommend that the "Questionnaire" be expanded to include more background information on your academic and work experience?

       38%   YES   40%   NO   21%   DON'T KNOW

8. Career Development Inventory

   a. Did you bring the Career Development Inventory with you when you met with the Assessor for the feedback interview?

       68%   YES   19%   NO   13%   DON'T KNOW

   b. Were the questions realistic in assembling data on past accomplishments and future plans?

       57%   YES   17%   NO   26%   DON'T KNOW

   c. Have you completed any action since the Assessment Center in the Career Development area?

       43%   YES   51%   NO   6%   DON'T KNOW

   d. If yes, was the action prompted by something that happened during the Assessment Center?

       38%   YES   46%   NO   17%   DON'T KNOW

9. Work Preference Tests (three)

   The work preference tests are used to determine preference in supervisory style. The results of the tests will be used at a later date after a larger group of Assessees have been tested.

10. Feedback Interview with Assessor

a. The Assessors were to contact you 3 to 5 days after the Assessment Center was completed for the interview. TDY and other work commitments caused delay in this proposed time frame for some Assessees. Please indicate the approximate time delay before your interview.

    37%   3 - 5 days

    43%   6 - 12 days

    20%   More than 12 days

b. Did the Assessor give you a report in writing as to the results of the Assessment Center?

   13%   YES   87%   NO   DON'T KNOW

c. Did the Assessor present the information in a manner that indicated he had preplanned for the interview?

   77%   YES   17%   NO   6%   DON'T KNOW

d. What was the approximated time used for the feedback interview?

    30%   20 minutes or less

    55%   20-40 minutes

    13%   40-60 minutes

            60-90 minutes

    1%   90 minutes or more

e. The ratings are labeled "More than Acceptable," "Acceptable," "Questionable," and "Not Acceptable." Did the Assessor indicate what rating you had received as a result of the Assessment Center?

   70%   YES   28%   NO   2%   DON'T KNOW

f. As you know, Assessees receive feedback information during the Assessment Center by observation and discussion with other Assessees. Did the feedback interview with the Assessor correlate with what you expected the Assessment Center to predict?

   66%   YES   15%   NO   19%   DON'T KNOW

g. Did the Assessor respond to your questions openly and in knowledgeable fashion?

89% YES   9% NO   2% DON'T KNOW

h. Did you have confidence at the time of the interview in the information presented by the Assessor?

78% YES   16% NO   7% DON'T KNOW

C. The next portion of the survey concerns the proposed distribution and use of the Assessment Center results. Approximately 300 employees will be assessed during the coming year.

1. The Assessment Center will be used as an indicator for all first level supervisory positions at the GS-13 level and higher in the Merit Promotion Program. Attendance will not be mandatory and supervisors may select a person regardless of his Assessment Center rating. The supervisor will be asked to document his rationale for selecting a person who refuses to attend the Assessment Center, or why he might choose an employee with a "Not Acceptable" or "Questionable" rating over those who are available and have a "More than Acceptable" or "Acceptable" rating. Do you concur in general with the above plan?

81% YES   13% NO   6% DON'T KNOW

2. Each Assessee will have the option of inviting or not inviting his first level supervisor to sit in on the feedback interview with the Assessor. Do you agree?

74% YES   17% NO   9% DON'T KNOW

3. The "feedback report" prepared by the Assessor, which consolidates all the findings developed during the Assessment Center, will be filed in the Official Personnel Folder (OPF). It will be filed in a "secure" folder with other test material, vouchers from past employers and health records. This folder is routinely pulled from Official Personnel Folder when you review your own. One copy will also be provided to the first level supervisor immediately after the feedback interview. Do you agree or have comments concerning the above distribution of feedback reports?

56% YES   31% NO   13% DON'T KNOW

4. Assessees will be allowed to retake the Assessment Center (after 6 months) to improve the original rating. The rating from the last Assessment Center attended will be the rating for record and will be used whether it is higher or lower. Do you concur in this proposal?

<div align="center">

38% YES   55% NO   6% DON'T KNOW

</div>

5. The Assessment Center will also be used to evaluate "high potential" employees identified for long-term full-time training and other high expense Career Development programs. Do you agree?

<div align="center">

74% YES   15% NO   11% DON'T KNOW

</div>

6. "At least half the 'worth' of the Assessment Center is the benefit the Assessee receives personally from attending the Assessment Center." Do you agree with this statement?

<div align="center">

70% YES   23% NO   6% DON'T KNOW

</div>

APPENDIX E

ASSESSOR FEEDBACK INTERVIEW OUTLINE

1. Establish rapport - Casual conversation to establish a relaxed, informal climate and reduce possible anxiety.

2. Ask the assessee to relate thoughts about the assessment center and its value.

3. Explain the purpose of the interview.

   a. Help the individual benefit from the assessment center experience.

   b. Aid the individual in forming a developmental plan.

4. Review and discuss the assessment process.

   a. Assessors observed and recorded behavior.

   b. Assessors met and shared observations from the various exercises and discussed each individual for several hours.

   c. They then came to an overall judgment of strengths and development needs.

   d. Comparisons in the discussion were not between people in the assessment center but against established benchmarks.

5. Provide feedback of assessment results for each dimension/exercise.

   a. Name dimension and ask assessee to explain it.

   b. State the official definition and reach consensus with the assessee.

   c. Identify and briefly describe the exercises measuring the dimension.

   d. Ask the assessee to evaluate own performance on the dimension.

   e. Provide the assessor's findings concerning the assessee's performance. Support with examples of behavior from appropriate exercises.

   f. Compare and contrast performance in various exercises measuring the dimensions.

   g. Encourage two-way discussion of feedback.

h. Ask assessee to suggest ways to improve performance of the dimension, if any.

i. Present recommendations for corrective actions or remedial plans.

j. After reviewing all the dimensions, give summary of overall performance in each exercise.

k. Ask for comments. Determine if the assessee understands the information provided about each dimension/exercise.

6. Discuss major strengths.

a. Do not minimize this area.

b. Even if the area is a strength it may be a development opportunity (A strength can be used to overcome or help develop a weak area).

7. Discuss major developmental needs.

a. Select the three or four most important developmental needs unless several developmental needs are related to each other.

b. Choose developmental needs which can be developed.

8. Obtain general feedback from the assessee in the form of questions and the assessee's reactions to the assessor's observations and recommendations.

9. Administer the post-assessment center questionnaire. Close the interview on a high note by emphasizing strengths and the possibility to overcome weaknesses.

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162

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BIOGRPAHICAL SKETCHES OF THE AUTHORS

Captain David M. Komar enlisted in the Air Force on 25 November, 1970 after graduating from John Carroll University, Cleveland, Ohio, with a bachelor's degree in physics. He served as a Special Electronics Technician until commissioned in 1974 through the Officer Training School program. As an officer he completed Electronic Systems Officer training and then served as a Maintenance Supervisor with SAC, and OIC, Quality Control and Chief, Ground Communications Operations with ADCOM. Upon completion of his AFIT assignment, Captain Komar was assigned to the Directorate of Requirements, Communication Electronics Systems, Headquarters Tactical Air Command.

Captain William M. Wise graduated from the University of Florida with a bachelor's degree in industrial engineering in June 1974 and was commissioned through the Air Force ROTC program. His initial assignment was to the Electronic Systems Division, Hanscom AFB, Massachusetts, where he was a project engineer on the Advanced Airborne Command Post Program. In July 1977 he was assigned to the Aeronautical Systems Division, Wright-Patterson AFB, where he was a project manager on the Pave Low III Night/Adverse Weather Rescue Helicopter Program. Captain Wise is currently assigned to the Air Force Technical Applications Center, Patrick AFB, Florida.